INTERNATIONAL CONFERENCE ON NUTRITION
PAPER SUBMITTED BY
THE UNITED STATES OF AMERICA

Prepared by
U.S. Department of Agriculture
and
U.S. Department of Health and Human Services

April, 1992

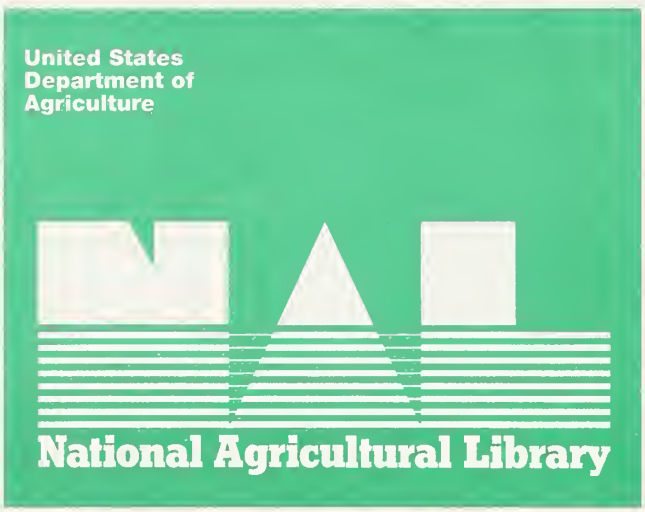

United States
Department of
Agriculture
National Agricultural Library

TABLE OF CONTENTS PAGE #

I. The Nature and Dimension of Nutrition and Diet-Related Problems.....I-1

A. Assessment of Nutritional Problems.....I-1

B. Additional Analysis by Population Groups.....I-7

II. Description and Analysis of Factors Affecting Nutritional Status of the Population.....II-1

A. Macroeconomic Environment and Nutrition.....II-1

B. Food Security.....II-5

C. Living Conditions, Health Status, Health and Social Services.....II-17

D. Lifestyles and Behavior.....II-20

III. Analysis of Current Policies, Programs, and Interventions Affecting Nutritional Status.....III-1

A. Impact of Programs, Projects, and Policies Directed at Preventing Nutritional Problems and Improving Nutritional Status.....III-1

B. Effects of Sectoral and Economic Policies on Nutrition.....III-6

C. Human, Technical, and Financial Resources Directed Towards Preventing Nutritional Problems and Improving Nutritional Status.....III-8

IV. Recommendations for Future Actions.....IV-1

A. Goals or Reasonable Aims.....IV-1

B. Action and Strategies Needed for Implementation.....IV-6

C. Financial and Human Resources/Constraints.....IV-15

APPENDICES

Executive Summary: Nutrition Monitoring in the United States.....I-1

Average Micronutrient Intake for Various Age-Sex Groups.....I-2

Description of Federal Food Assistance Programs.....II-1

Age and Sex Specific Recommended Dietary Allowances (RDAs)...II-2

Per-capita Food Availability.....II-3

Federal Research Activities.....III-1

Additional Food and Nutrition Objectives from Healthy People 2000.....IV-1

Nutrition Monitoring Objectives from: Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring.....IV-2

Recommendations from: Improving America's Diet and Health: From Recommendations to Action.....IV-3

National Nutrition Monitoring and Related Research Act and the Draft 10-Year Plan for Nutrition Monitoring in the United States.....IV-4

Executive Summary

Overall, the profile of nutrition in the U.S. is very good by international standards. The U.S. has an abundant food supply and is a major exporter of agricultural products. Chronic dietary energy deficiency and protein-energy malnutrition are extremely rare. Diseases of nutritional deficiency (i.e., rickets, pellagra, scurvy) are virtually nonexistent.

U.S. consumers spend about 12 percent of their disposable income on food--a small amount by international standards. The share of income spent on food dropped by about 15 percent from 1970 to 1990. The U.S. has extensive food assistance programs available for those in need. In Fiscal Year 1991, the U.S. spent over $28 billion for domestic food and nutrition assistance.

Despite this generally positive situation, there remain serious nutritional challenges for the United States to overcome. As the diseases of nutritional deficiency have diminished, they have been replaced by diseases related to dietary excess and imbalance--problems that now rank among the leading causes of illness and death in the United States, touch the lives of most Americans, and generate substantial health care costs. Obesity is a significant health problem. Approximately one-fourth of adults are overweight and, among certain population groups, rates of overweight are even higher. Four of the ten leading cases of death in the United States are associated with diet--coronary hearth disease, some types of cancer, stroke, and non-insulin dependent diabetes. Certain population groups are at greater risk for nutritional problems. For example, children in poverty are more likely to experience iron deficiency and growth retardation. The paper looks at the magnitude of these diseases and conditions, changes over time, and differential distribution among population groups for whom data are available.

The paper also contains a summary of a wide range of nutrition-related recommendations, in such areas as nutrition education, food security, food safety, nutrition monitoring, and research. These recommendations draw upon a wide range of previously published reports and studies from various sources. National policy objectives for nutrition are embodied in the Dietary Guidelines for Americans. Nutrition is also a key focus of Healthy People 2000, the health objectives for the United States for the Year 2000. In addition to diet-related objectives to improve health status and reduce chronic disease risk , Healthy People 2000 includes emphasis on objectives for nutrition education in schools and to students in the health care professions.

In 1989, the U.S. Departments of Agriculture and Health and Human Services jointly released Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring. This report reviews the dietary and nutritional status of the U.S. population

based on data available through the Departments' nutrition monitoring activities.

The recently published report of the National Academy of Science entitled Improving America's Diet and Health: From Recommendations to Action, details steps which could be taken by the public and private sectors and health care professionals as well as strategies for education of the public and directions for research. Numerous other public and private organizations are also working toward achieving health and nutrition objectives.

The paper discusses a number of strategies for reaching future nutrition-related goals, including: the promotion of healthy lifestyles; enhancing "caring capacity" within the household and within society; improving household food security; developing food safety initiatives; assessing, analyzing, and monitoring nutrition situations; and prioritizing research activities.

Since the content and focus of the U.S. Country Paper were dictated by the needs of the conference organizers, the paper should not be viewed as a comprehensive statement of official U.S. Government policy.

INTERNATIONAL CONFERENCE ON NUTRITION
PAPER SUBMITTED BY
THE UNITED STATES OF AMERICA

INTRODUCTION

The International Conference on Nutrition (ICN) will be held in Rome, Italy in December 1992. It is jointly sponsored by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO). As many as 150 nations are likely to send delegations. Hundreds of nongovernment organizations and private business groups are also expected to participate. The Conference will look critically at the problems of hunger, malnutrition, and diet-related diseases in both developing and developed nations and examine ways to foster added international cooperation in the field of nutrition.

The U.S. Country Paper is the major United States contribution to the principal background document for the Conference -- "An Assessment and Analysis of Trends and Current Problems in Nutrition". The paper was prepared following an outline produced by the Joint FAO/WHO Secretariat for the ICN. This allows it to be used more readily to compare U.S. policies and programs with those of other nations. A supplement to the main paper outlines the many contributions that U.S. international programs are making towards the improvement of nutrition worldwide, especially among vulnerable groups and the poor in the developing world.

Since the content and focus of the U.S. Country Paper were dictated by the needs of the conference organizers, the attached paper should not be viewed as a comprehensive statement of official U.S. government policy. Contributions were made by individuals outside the government to reflect the important nutrition-related activities of the private sector, educational organizations, and voluntary groups. However, a number of documents stating U.S. Government policy on nutrition and public health are cited in the text. The reader should refer to these documents for more detailed statements and information on public policies in these areas.

ACKNOWLEDGEMENTS

This paper was compiled by the United States Departments of Agriculture (USDA) and Health and Human Services (DHHS) under the general direction of Ms. Catherine Bertini, Assistant Secretary for Food and Consumer Services, USDA, and Dr. James O. Mason,

Assistant Secretary for Health, DHHS. Ms. Bertini and Dr. Mason are co-chairs of the Administration-wide Interagency Board for Nutrition Monitoring and Related Research, which provided general editorial oversight. Jan Lilja, Frances Zorn, Jay Hirschman, and Cindy Long of the USDA Food and Nutrition Service Office of Analysis and Evaluation were the primary editors, with assistance from Amy Sellers. Additional administrative support was ably provided by Anthony Grimm. Neil Gallagher (USDA) and Linda Meyers (DHHS) are the Departmental coordinators for the conference.

Individuals from numerous government organizations and government agencies contributed to this report. These include:

Department of Agriculture:

Economic Research Service
Betsy Frazao
Judy Putnam

Agricultural Research Service
Dr. Jacqueline Dupont
Jane Robens

Human Nutrition Information Service
James Heimbach
Alanna Mosfegh
Mary Hama
National Agricultural Library
Sandy Facinoli

Food Safety Inspection Service
David Schmidt

Extension Service
Nancy Leidenfrost

Department of Health and Human Services:

National Institutes of Health
Darla Danford
Susan Pilch

Food and Drug Administration
F. Edward Scarbrough

Centers for Disease Control
Wendy Fenner
Faye Wong
Ronette Briefel
Katherine Alaimo

National Institute for Alcohol Abuse and Alcoholism
Mary Dufour

Indian Health Service
Karen Strauss

Administration on Aging
M. Yvonne Jackson

Administration for Children and Families
Willie Etheridge

Dept. of Defense, U.S. Army

Col. David Schnakenberg

Dept. of Commerce

Bruce Morehead

International Life Sciences Institute
Suzie Harris

Community Nutrition Institute
Rodney Leonard

I. THE NATURE AND DIMENSION OF NUTRITION AND DIET-RELATED PROBLEMS

A. Assessment of Nutritional Problems

Key health indicators show that Americans generally live long and healthy lives. For example, average life expectancy at birth reached a record high of 75.3 years in 1989. In the same year, the age-adjusted death rate reached a record low of 523 per 100,000. (U.S. Department of Health and Human Services, 1992)

Nutrition has had a vital influence in this regard. For example, until as recently as the 1940's, diseases such as rickets, pellagra, scurvy, beriberi, xerophthalmia, and goiter (caused by lack of adequate dietary vitamin D, niacin, Vitamin C, thiamin, Vitamin A, and iodine, respectively) were prevalent in the United States. Today, thanks to an abundant food supply, fortification of some foods with critical trace nutrients, and better methods for determining and improving the nutrient content of foods, such deficiency diseases are rare.

As the diseases of nutritional deficiency have diminished, they have been replaced by diseases related to dietary excess and imbalance--problems that now rank among the leading causes of illness and death in the United States, touch the lives of most Americans, and generate substantial health care costs. Four of the ten leading causes of death are associated with diet--coronary heart disease, some types of cancer, stroke, and noninsulin-dependent diabetes mellitus. Another four--cirrhosis of the liver, unintentional injuries, suicides and homicides--have been associated with excessive alcohol intake. This section looks at the magnitude of these diseases and conditions, changes over time, and differential distribution among population groups for whom data are available.

1. Chronic Dietary Energy Deficiency

The U.S. diet provides sufficient food energy relative to caloric expenditure. Chronic dietary energy deficiency is not a major nutritional problem in the United States. National studies (U.S.Department of Agriculture 1988, 1989) find a small percentage (2.5 percent) of very low income children ages 1 to 5 years with food energy intakes less than half of the Recommended Dietary Allowances (RDAs).

Slowed growth may be an indicator of inadequate dietary intake in children. Chronic, mild dietary energy inadequacy can often slow growth and result in low height for age. While growth retardation is not a problem for the vast majority of young children in the United States, low-income children (age 17 and

under) show a higher than expected prevalence of low height for age (8 to 14 percent compared to the expected 5 percent below the fifth percentile). This may indicate mild chronic dietary inadequacy and/or environmental factors (e.g., infections, parasitic diseases). (National Center for Health Statistics, 1990)

2. Protein-Energy Malnutrition

Protein-energy malnutrition is rare in the United States. Generally it is only found in association with child neglect, food faddism, serious underlying disease, or long-term hospitalization. (National Academy of Sciences, 1989; U.S. Departments of Health and Human Services and Agriculture, 1986; McMahon and Bistrian, 1990). In 1989, 308 deaths from nutritional marasmus (0.1/100,000 population) and 73 from kwashiorkor (0.0 per 100,000) were reported through the Centers for Disease Control's vital statistics reporting system. (Godfrey, 1991)

3. Low Birth Weight (LBW) and Low Birth Weight for Gestational Age

In 1989, though a large majority of live births were above 2500 grams, 7% were low birth weight (weight at birth below 2500 grams). (National Center for Health Statistics, 1991a) From 1970 to 1981, LBW declined 1.3 percent per year, due to reduction in both intrauterine growth retardation (two-thirds) and in pre-term births (one-third). (Kessel, 1984). That decline reached a plateau during the early 1980's. Risk factors for LBW include younger and older maternal age, high parity, poor reproductive history, low socioeconomic status, low level of education, late entry into prenatal care, low pregnancy weight gain and/or low prepregnancy weight, smoking, and substance abuse. (Kleinman, 1987). Poor nutritional status before pregnancy and inadequate nutritional consumption during pregnancy also appear to have a negative impact on fetal weight gain and increase the risk of low birth weight. (Institute of Medicine, 1985).

The highest rates of LBW occur among blacks (13.2 percent in 1989) and Puerto Ricans (9.4 percent in 1988). Several of the known risk factors for low birth weight, such as maternal cigarette smoking, are more prevalent among black mothers. In addition, there are still disparities in receipt of comprehensive prenatal care between whites and blacks. Although national figures show that 76 percent of women who had live births in 1987 received early (first trimester) prenatal care, rates for black, American Indian/Alaskan Native, and Hispanic women ranged from 60.2-61.1 percent. (Department of Health and Human Services, 1990)

4. Micronutrient Deficiencies

Improvements in the food supply, including fortification programs earlier in the 20th century, have virtually eliminated many of the single micronutrient deficiency diseases which were common early in the century. There is, however, evidence of inadequate individual intake of some micronutrients and/or impaired nutritional status in some subgroups. (U.S. Agency for International Development, 1991, Life Sciences Research Office, 1989)

Sex and age are powerful determinants of iron deficiency, the most common single nutrient deficiency. (Life Sciences Research Office, 1989). These relationships are shown in *Figures 2, 3, and 4*, which present prevalence of iron deficiency by age for different subgroups in the United States. Iron deficiency is most prevalent among children 4-5 years old (up to 9%), adolescents (up to 14%), and women of childbearing age (up to (14%). Low-income children under 5 are also of particular concern, with rates of iron deficiency ranging from 21% (ages 1-2) to 10% (ages 3-4), as compared to 9% and 4% for all children in those age groups. (U.S. Department of Health and Human Services, 1990) Evidence of iron deficiency is rare for the elderly and for males.

Limited evidence from biochemical assessments suggests that Vitamin A nutritional status might be improved in some subgroups. Low intakes of calcium, zinc, and folacin have also been found in some groups, especially women. For example, nonvegetarian women aged 19-34 consume on average only 75 percent of the RDA for calcium. Calcium has been designated as a nutrient of public health concern due to evidence relating low calcium intake to osteoporosis. (National Research Council, 1989a)

The United States collects and reviews information on micronutrient intake and biochemical indicators of nutrient status as part of the National Nutrition Monitoring and Related Research Program (described in Chapter III).

Appendix I-1 summarizes a 1989 assessment of the nutritional status of the U.S. population, including those nutrients considered to be a public health concern. *Appendix I-2* presents micronutrient intakes for various age-sex groups in the United States.

5. Diet-related Noncommunicable Diseases

a. Hypertension

Hypertension is a risk factor for coronary heart disease (CHD), cerebrovascular disease, and renal failure. Hypertension is related to obesity, alcohol intake, and sodium intake. In the United States, the age-adjusted rates of hypertension are 22% for men and 23% for women. Blacks have the highest age-adjusted prevalence, which is 23% higher than that of whites. Regardless of

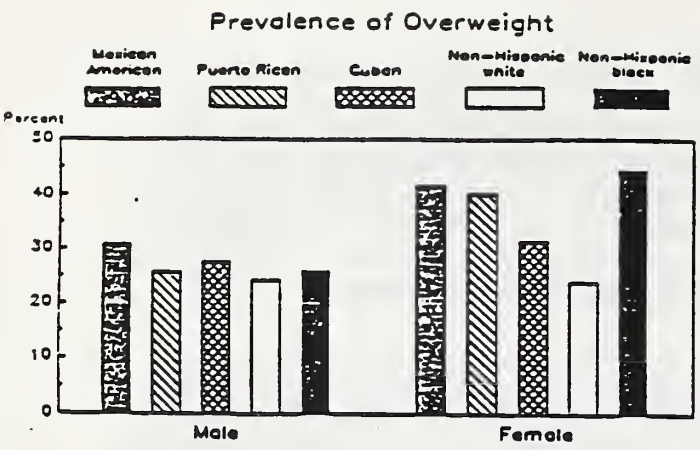


Figure I-1 Age-adjusted percent of overweight Hispanic and non-Hispanic persons, 20-74 years: Hispanic Health and Nutrition Examination Survey, 1982-84, and second National Health and Nutrition Examination Survey, 1976-80

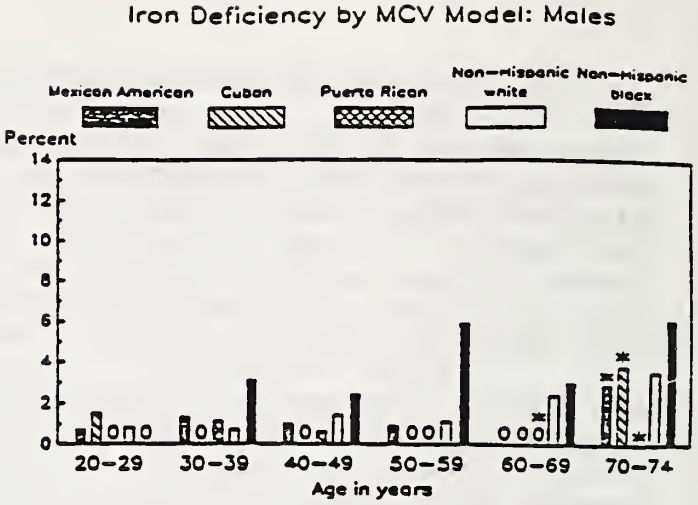


Figure I-3 Prevalence of iron deficiency assessed by the MCV model in males aged 20-74 years, by ethnic group or race: Hispanic Health and Nutrition Examination Survey, 1982-84, and second National Health and Nutrition Examination Survey, 1976-80 (A zero indicates a prevalence estimate of 0.0 percent; an asterisk indicates an unstable statistic or a statistic not reported because of small sample size.)

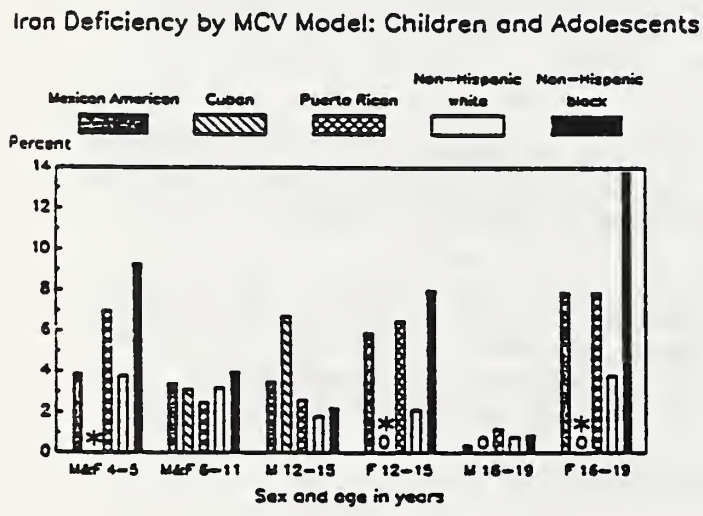


Figure I-2 Prevalence of iron deficiency assessed by the MCV model in children and adolescents aged 4-19 years, by ethnic group or race: Hispanic Health and Nutrition Examination Survey, 1982-84, and second National Health and Nutrition Examination Survey, 1976-80 (A zero indicates a prevalence estimate of 0.0 percent; an asterisk indicates an unstable statistic or a statistic not reported because of small sample size.)

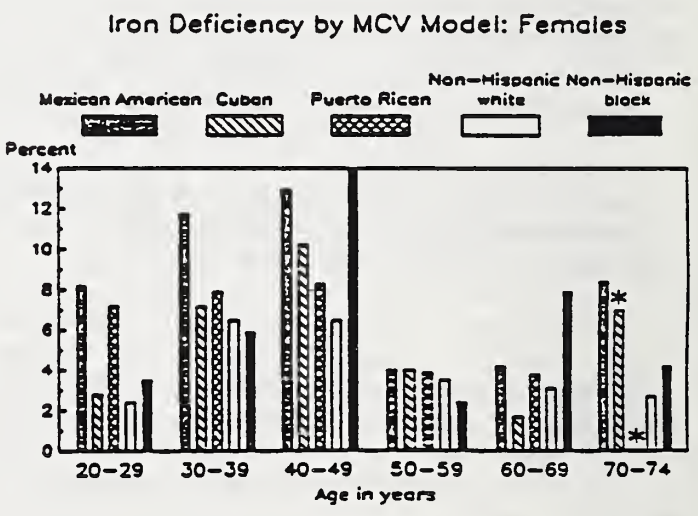


Figure I-4 Prevalence of iron deficiency assessed by the MCV model in females aged 20-74 years, by ethnic group or race: Hispanic Health and Nutrition Examination Survey, 1982-84, and second National Health and Nutrition Examination Survey, 1976-80 (A zero indicates a prevalence estimate of 0.0 percent; an asterisk indicates an unstable statistic or a statistic not reported because of small sample size.)

race or sex, the prevalence of hypertension increases with age. Successful control is better for women than for men and for whites compared with blacks. The proportion of persons diagnosed with hypertension who have attained blood pressure levels below 160 mmHg/95 mmhg has increased from 34% in 1976-80 to 57% in 1982-84. (Roccella and Horan, 1988)

b. Overweight

Overweight is a risk factor for hypertension, hypercholesterolemia, non-insulin dependent diabetes, and certain cancers. In 1976-1980, 26 percent of people aged 20 through 74 were overweight as defined by a Body Mass Index at or above the 85th percentile of people 20-29 years old. (National Center for Health Statistics, 1983) As shown in *Figure 1*, overweight rates are generally higher for women than for men. Among women, blacks have the highest age-adjusted prevalence (44%), followed by Mexican Americans, Puerto Ricans, and Cubans. White women have lower rates (24%). The prevalence in men is less variable by ethnicity and race. White males have the lowest prevalence (24%), while Mexican Americans have the highest (31%).

Low-income women report lower caloric intakes than other women, yet have higher rates of obesity. (U.S.Department of Agriculture, 1987b) In 1976-1980, 39% of women with income below the poverty level were overweight as compared to 25% of those above the poverty level(based on age-adjusted data). For men, this pattern did not hold -- 22% of men below poverty were overweight, compared to 25% of men above the poverty level. (Life Sciences Research Office, 1989)

The prevalence of overweight differs among races. A higher percentage of black women are overweight between ages 20 and 74. For men, obesity is more common among whites ages 20 to 34, more common among blacks ages 35 to 54, and similar for blacks and whites above age 54. (National Research Council, 1989a).

Although national data are not available, data from different tribes show a prevalence of overweight for American Indians/Alaska Natives that ranges from 29-79 percent. The increase in overweight among American Indians in the last 50 years has paralleled an increasing rates of diabetes. (U.S. Department of Health and Human Services, 1990)

c. Coronary Heart Disease

The death rate for coronary heart disease (CHD) has declined by 40 percent over the past 15 years to 130 per 100,000 in 1988. (U.S. Department of Health and Human Services, 1990; National Center for Health Statistics, 1991b) Improved medical care, changes in lifestyles, and risk factor reduction have contributed

substantially to this decline.

Despite this progress, CHD continues to be the leading cause of death in the United States. It affects 7 million Americans, causes over 500,000 deaths annually, and costs the United States approximately $43 billion per year in direct and indirect costs (U. S. Department of Health and Human Services). The major modifiable risk factors for coronary heart disease are high blood cholesterol, high blood pressure, and cigarette smoking. Diet, especially saturated fat and cholesterol, plays an important part in the regulation of blood cholesterol levels and influences other risk factors as well. Average fat intakes of 36% percent of calories and saturated fat intake of 13% of calories are higher than the recommended upper limits of 30% and 10% percent, respectively. (U.S Department of Health and Human Services, 1990)

d. Diabetes

Diabetes is directly responsible for almost 36,000 deaths in the United States each year, making it the seventh leading cause of death. Diabetes mellitus affects about 12 million Americans (5% of the population). Of these, about 7 million people have been diagnosed and an additional 5 million may unknowingly have the disease. Each year more than 650,000 new cases are identified. Approximately 10 percent of all cases are Type I, or insulin-dependent diabetes and the remaining 90% are Type II, or noninsulin-dependent diabetes (NIDDM). It usually appears in persons over 40 years of age and is often associated with overweight. The only therapeutic intervention known to be effective in NIDDM is the maintenance of desirable body weight.

The prevalence of NIDDM among adult blacks, Hispanics, and Asian-Americans appears to be higher than among whites. For blacks, the prevalence is about 50% higher than for whites. One of the highest worldwide rate of diabetes occurs in the Pima Indians in the United States. Diabetes is now so prevalent among American Indians and Alaskan Natives that in many tribes more than 20 percent of the members have the disease. (Indian Health Service, 1988)

e. Cancer

Cancer is the second leading cause of death in the United States, accounting for about 500,000 deaths (22%) in 1989. (National Center for Health Statistics, 1992) Although there are many different types of cancer, a few major types account for more than half of all cancer-related illness and death. The leading causes of cancer death in 1989 were lung cancer (28 percent of all cancer deaths), colorectal cancer (12 percent of all cancer deaths), breast cancer (9 percent) and prostate cancer (6 percent), all of which have been associated with dietary patterns. (American Cancer Society, 1990) It is estimated that about a third of all cancer deaths may be

related to diet. (U.S. Department of Health and Human Services, 1990)

Incidence and mortality rates for cancer are significantly higher in black than in white Americans or in other minorities. This difference is especially pronounced in males. Native Americans have the lowest overall cancer rates among the U.S. population.

f. Others

(1) Osteoporosis

Osteoporosis is a multifactorial, complex disorder, but low calcium intake appears to be one important factor in its development. In the United States, it is the major skeletal disease in which nutrition may play a role. (U.S. Department of Health and Human Services, 1988). Osteoporosis affects 15 to 20 million people, contributing each year to an estimated 1.3 million fractures of the vertebrae, hips, forearms, and other bones in those 45 years of age and older. U.S. Department of Health and Human Services, 1988). The demographic characteristics associated with osteoporosis and osteoporosis-related fractures are: age over 40, female sex, and Caucasian race. Loss of bone mass generally begins at approximately 40 years of age. The most rapid decrease in bone density occurs among white women, particularly in those around 50 years of age.

(2) Alcohol

While the nutritional elements of the public health impact of alcohol abuse are still being defined, misuse of alcohol is one of the most preventable health problems in the United States. Excessive alcohol intake prominently contributes to 4 of the 10 leading causes of death in the United States--cirrhosis of the liver, motor vehicle and other accidents, suicides, and homicides. Chronic alcohol abuse also increases the risk for oral, esophageal, liver, and other types of cancer, and for hypertension. Recent trends suggest that both the intake of alcohol and its adverse health consequences are declining in the United States. There has also been a slow decline in deaths attributable entirely to alcohol-related causes since 1980. (U.S. Department of Health and Human Services, 1988, Klatsky, 1987)

B. Additional Analysis by Population Groups

1. Geographic Area

In the United States, rates of both CHD and hypertension exhibit regional differences that appear to be independent of race and socioeconomic status. CHD rates tends to be highest in the East

and Southeast, intermediate in the Midwest, and lowest in the West and Southwest. In addition, people in the Southeast tend to have higher blood pressure values. (National Research Council, 1989a)

2. Rural/Urban

Average blood pressure, as well as the frequency of hypertension and its complications, rise rapidly when people move from rural to urban settings. However, it is difficult to separate the effects of psychosocial change from the changed physiological exposures that accompany migration. (National Research Council, 1989a)

For cancer, there tends to be a slightly higher incidence of all cancers in the industrial Northeast and slightly lower rates in rural areas. The exception is stomach cancer, for which the reverse is true.(National Research Council, 1989a)

3. Socio-Economic Group

Health disparities between poor people and those with higher incomes are almost universal for all dimensions of health. Those disparities may be summarized by the finding that people with low income have death rates that are twice the rate for people with incomes above the poverty level (Ambler and Dull, 1987). For virtually all of the chronic diseases that lead the Nation's list of killers, low income is a special risk factor (U.S. Department of Health and Human Services, 1990).

The risk of death from heart disease is more than 25 percent higher for low income people than for the overall population. The incidence of cancer increases as family income decreases, and survival rates are lower for low-income cancer patients. The prevalence of both hypertension and obesity for blacks and whites varies inversely with socio-economic status. The prevalence of non-insulin dependent diabetes is also highest among the poor, which may be related to the fact that the percentage of overweight women was highest in the poverty group. (National Research Council 1989a; Life Sciences Research Office,1989)

In addition to its link with diet-related chronic disease, poverty is also often associated with significant developmental limitations. For example iron deficiency is more than twice as common in low- income children as it is among the total population (U.S. Department of Health and Human Services, 1990). Vitamin A intake, while adequate for the majority of the population, continues to be a problem for children in low-income households, particularly Mexican American households, where 10.1% of children have low serum retinol levels (Life Sciences Research Office, 1989).

Growth retardation affects 16 percent of low income children under age 6. No single indicator of health status demonstrates the

connection between poverty and poor health more clearly than does infant mortality. Poor pregnancy outcomes including prematurity, low birth weight, birth defects, and infant death are linked to low income as well as to low education level, low occupational status, and other indicators of social and economic disadvantage. (Institute of Medicine, 1985).

As highlighted in these examples, nutritional factors contribute to these disparities. As a modifiable behavior, nutrition can also contribute substantially to reductions in disparities.

4. Specific Mortality Trends by Age, Sex, and Race

CHD prevalence, incidence, and mortality rates rise steeply with age, approximately doubling in each 5-year age class past age 24. CHD rates in men are three times greater than in women in the United States. These sex differences are smaller after women pass menopause. (National Research Council, 1989a).

Stroke deaths and stroke incidence rates are very low until age 45, then rise precipitously, more than doubling for each decade. Stroke deaths, prevalence, and incidence rates are generally similar for men and women after age 55. (National Research Council, 1989a). Hypertension and diabetes are diet-related risk factors for stroke.

Rates of mortality from alcoholic cirrhosis are approximately twice as high for men as for women in the United States. The highest mortality is concentrated in the 25-64 year-old range.

Data on mortality associated with reproduction shows considerable variation by race. In 1989, the maternal mortality rate per 100,000 live births was 7.9 for all U.S. live births, but 18.4 for blacks. In 1989 the infant mortality rate for the United States--9.8 infant deaths per 1,000 live births--was the lowest final rate every recorded; the previous low (10 per 1,000 live births) was recorded in 1988. However, the infant mortality rate in the United States remains higher than that in many developed countries.(National Center for Health Statistics, 1992)

Infant mortality rates vary in different geographic areas. For example, in Washington, D.C., the infant mortality rate was 22.9 per 1000 live births in 1989. The infant mortality rate for black infants (18.6 per 1,000 live births in 1989) continues to be twice that of white infants (8.1 per 1,000). Among specified subgroups of the Hispanic population, the infant mortality rate for Mexican infants was 7.9 deaths to infants under 1 year of age per 1,000 live births, 9.6 for Puerto Rican infants, and 7.4 for Cuban infants. (National Center for Health Statistics, 1992) The overall American Indian rate is 12.5 per 1,000 live births for 1984. (U.S. Department of Health and Human Services, 1990)

REFERENCES FOR SECTION I

Ambler RW and HB Dull, 1987. Closing the Gap: The Burden of Unnecessary Illness. New York, Oxford University Press.

American Cancer Society, 1990. Cancer Facts and Figures -- 1989. New York, The American Cancer Society.

Godfery, E., Centers for Disease Control, National Center for Health Statistics, March 3, 1992. Personal communication to Linda Meyers.

Indian Health Service, 1988. Indian Health Service Chart Series Book. Washington D.C., U.S. Department of Health and Human Services.

Institute of Medicine, 1985. Preventing Low Birthweight. Washington, D.C., National Academy Press.

Kessel, S.S, Villar, J., Berendes, H.W., Nugent, R.P. 1984. "The Changing Pattern of Low Birth Weight in the United States: 1970-1980.". Journal of the American Medical Association, 251:1978-1982, 1984

Klatsky, A.L , 1987. "The Cardiovascular effects of alcohol". Alcohol Alcohol 22 (suppl.1):117-124, 1987.

Kleinman J.C., Kessel, S.S., 1987. "Racial differences in low birth weight: trends and risk factors." New England Journal of Medicine, 317:749-753, 1987.

Life Sciences Research Office, Federation of American Societies for Experimental Biology, 1989. Nutrition Monitoring in the United States--An Update Report on Nutrition Monitoring. Prepared for the U.S. Department of Agriculture and the U.S. Department of Health and Human Services. DHHS Publication No. (PHS) 89-1255. Public Health Service. Washington DC: U.S. Government Printing Office.

McMahon M. and B. Bistrian, 1990. "The Physiology of Nutritional Assessment and Therapy in Protein-Calorie Malnutrition". Disease-a Month 36(7), Chicago, Mosby-Year Book, Inc.

National Cancer Institute, 1986. "Cancer control objectives for the nation: 1985-2000". National Cancer Institute Monographs 2. DHHS Pub. NO. (NIH)86-2880, Bethesda, MD, U.S. Department of Health and Human Services.

National Center for Health Statistics, Centers for Disease Control, 1992. Advance Report of Final Mortality Statistics, 1989, Monthly Vital Statistics Report, Vol. 40 (8) Supplement 2. Hyattsville, MD, Department of Health and Human Services, January 7, 1992.

National Center for Health Statistics, Centers for Disease Control, 1991b (October 15), National Vital Statistics System, special analysis.

National Center for Health Statistics, Centers for Disease Control, 1991a. Advance Report of Final Natality Statistics, 1989 Monthly Vital Statistics Report. Hyattsville, MD, Department of Health and Human Services.

National Center for Health Statistics, Centers for Disease Control. 1991c. Health, United States, 1990. DHHS Pub. No. (PHS) 91-1232, Washington, D.C, U.S. Government Printing Office.

National Center for Health Statistics, Centers for Disease Control, 1990. Pediatric Nutrition Surveillance System, 1990 Annual Report, unpublished data, Atlanta, GA.

National Center for Health Statistics, S. Abraham, 1983. "Obese and Overweight Adults in the United States". Vital and Health Statistics. Series 11, No. 230 DHHS Publ. No. (PHS) 83-1680. Washington, D.C., U.S. Government Printing Office.

National Research Council, Committee on Diet and Health, 1989a. Diet and Health. Washington, National Academy Press.

National Research Council, Subcommittee on the Tenth Edition of the RDAs. 1989b. Recommended Dietary Allowances. Washington, D.C, National Academy Press.

Roccella, EJ and MJ Horan, 1988. The National High Blood Pressure Education Program: Measuring progress and assessing its impact. Health Psychology 7(Suppl):297-303.

U.S. Agency for International Development, Office of Nutrition, 1991. "Micronutrient Malnutrition in the United States: Iron, Iodine and Vitamin A." Presented at "Ending Hidden Hunger: A Policy Conference on Micronutrient Malnutrition, Montreal, Quebec, Canada" October 10-12, 1991.

U.S. Bureau of the Census, 1991."Poverty in the United States: 1990". Current Population Reports. Series P-60, No. 175 Washington, D.C., U.S. Government Printing Office.

U.S. Department of Agriculture, Human Nutrition Information Service, March 1988. Continuing Survey of Food Intakes by

Individuals (CSFII) Low-Income Women 19-50 Years and Their Children 1-5 Years, 4 Days, 1985. NFCS, CSFII Report No. 85-5. Hyattsville, MD, Human Nutrition Information Service, USDA.

U.S. Department of Agriculture, Human Nutrition Information Service, January, 1989. Continuing Survey of Food Intakes by Individuals (CSFII) Low-Income Women 19-50 Years and Their Children 1-5 Years, 4 Days, 1986. NFCS, CSFII Report No. 86-4. Hyattsville, MD, Human Nutrition Information Service, USDA.

U.S. Department of Agriculture, Human Nutrition Information Service, January, 1987a. Continuing Survey of Food Intakes by Individuals (CSFII) 19-50 Years and Their Children 1-5 Years, 1 Day, 1986. NFCS,CSFII Report No. 86-1. Hyattsville, MD, Human Nutrition Information Service, USDA.

U.S. Department of Agriculture, Human Nutrition Information Service, January 1987b. Continuing Survey of Food Intakes by Individuals (CSFII 19-50 Years and Their Children 1-5 Years, 1 Day, 1986. NFCS,CSFII Report No. 86-3. Hyattsville, MD, Human Nutrition Information Service, USDA.

U.S. Department of Agriculture, Human Nutrition Information Service, May 1984. Nutrient Intakes: Individuals in 48 States, Year 1977-78. NFCS 1977-78 Report No. I-2. Hyattsville, MD, Human Nutrition Information Service, USDA.

U.S. Department of Health and Human Services, 1990. Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Washington D.C, U.S. Government Printing Office.

U.S. Department of Health and Human Services and Department of Agriculture, July 1986. Nutrition Monitoring in the United States: Report from the Joint Nutrition Monitoring Evaluation Committee. DHHS Publication No. (PHS) 86-1255, Washington, D.C. , U.S. Government Printing Office.

U.S. Department of Health and Human Services, 1988. The Surgeon General's Report on Nutrition and Health. DHHS Publication No (PHS) 88-50210, Washington, D.C., U.S. Government Printing Office.

II. DESCRIPTION AND ANALYSIS OF FACTORS AFFECTING NUTRITIONAL STATUS OF THE POPULATION

A. Macroeconomic Environment and Nutrition.

1. General Conditions and Trends Within the Country

Due to an abundant and low cost food supply, U.S. consumers spent about 12 percent of their income on food in 1986, a small amount by international standards. This is lower than any other country for which comparative data are available. (U.S. Bureau of the Census, 1990b) Differences by income group do exist however, with lower-income families spending a substantially larger share of income on food.

Disposable Income and Food Expenditures. In 1990, disposable personal income[a] in the United States totaled $3.9 trillion, or about $16,000 per capita. Inflation-adjusted per capita disposable income increased 42 percent between 1970 and 1990. Expenditures for food grew more slowly than disposable income. The share of disposable income spent on food fell from 14.1 percent in 1970 to 11.8 percent in 1990. The budget share devoted to food differs for households at different after-tax incomes. In 1989 households with incomes of $5,000-$9,999 averaged 31 percent, while those with incomes above $50,000 averaged 10 percent. (Putnam and Allshouse, 1991)

Poverty and Income Distribution. For most people in the United States, income has risen over time, giving them more options for personal consumption expenditures, including expenditures on food. However, growth in income did not affect all households equally. Inflation-adjusted household income increased for every income group[b] from 1970 - 1990. Income peaked for the low income groups in 1973. Despite income growth, poverty still exists in the United States. The poverty level as used in this paper is based solely on money income and does not reflect the fact that many low-income people receive noncash benefits such as food stamps and public housing. (U.S. Bureau of the Census, 1991c)

---

[a] Disposable personal income is individuals' income after payment of personal taxes and other government payments. Disposable income is used for personal consumption or savings.

[b] Income groups are defined as each quintile in the income distribution.

According to the latest official poverty statistics, in 1990 13.5 percent of the population lived below the "poverty level" -- a level of income set annually by the government for use in determining eligibility for various types of government programs. The poverty level in 1990 was an annual income of less than about $13,360 for a family of four, and is adjusted for inflation every year. Groups with particularly high poverty rates include children; people living in families headed by women; persons living alone or with nonrelatives; and blacks. Population groups generally have a higher poverty rate in nonmetro than metro areas. (Hoppe, 1991)

Children are particularly vulnerable to poverty -- approximately one in five children live in poverty. (U.S. Bureau of the Census, 1991d) The recent rapid growth in families headed by single women is of particular concern. Such families have a poverty rate of over one-third, and account for over one-half of all poor children. (U.S. Bureau of the Census, 1991d)

For those who are poor, obtaining a nutritious diet without assistance can be a challenge. Federal, State, and local governments, as well as private charitable organizations help to mitigate this problem by providing billions of dollars worth of food and nutrition assistance. Overall, the bulk of food assistance is financed at the Federal level.

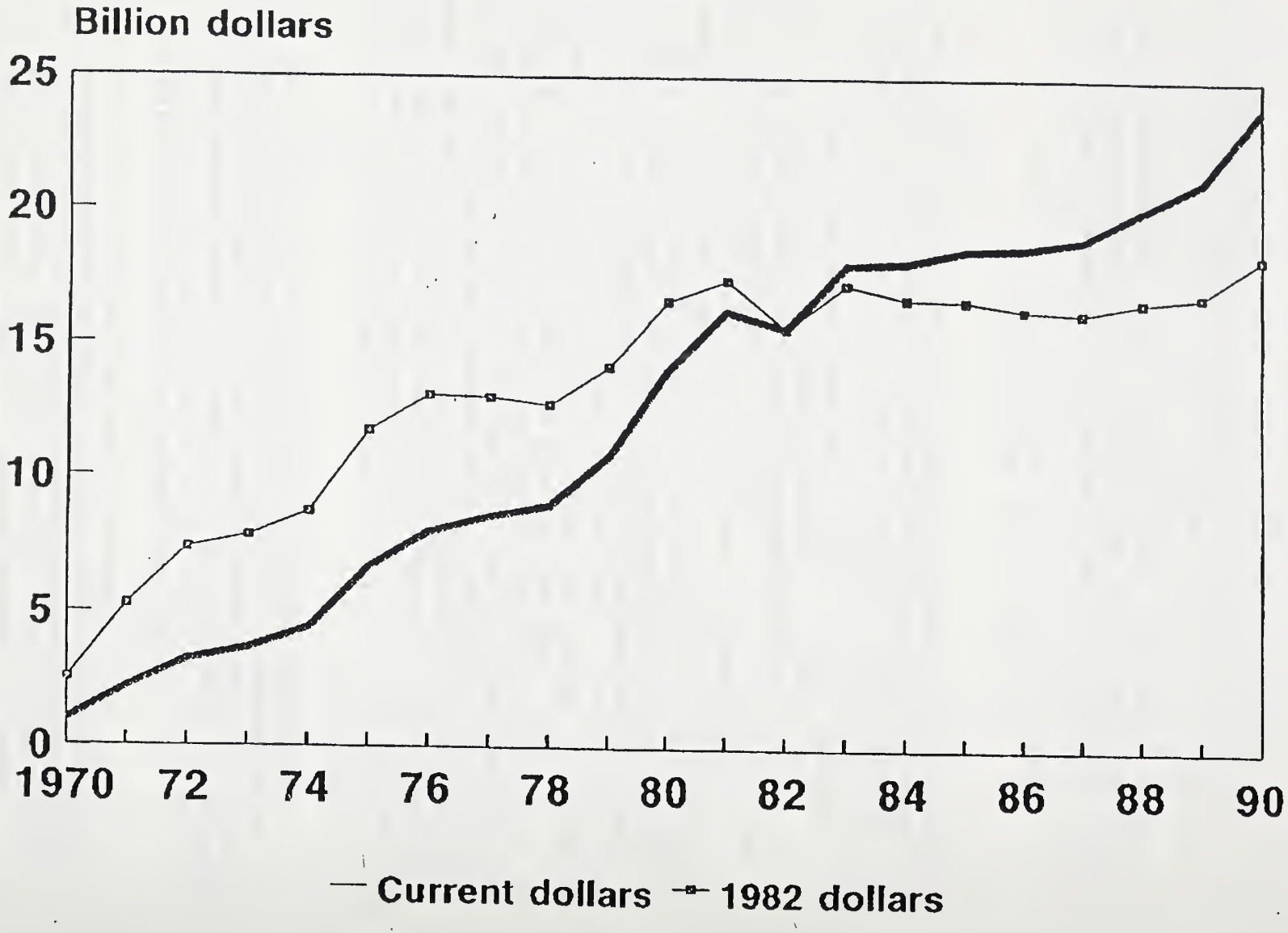
2. Budget Allocations

The United States has established a number of programs to provide food assistance to the poor and other nutritionally vulnerable groups, such as school children, the elderly, and victims of disasters. Most of these programs are the responsibility of the U.S. Department of Agriculture (USDA) and are administered by the Food and Nutrition Service.

Government expenditures for food and nutrition assistance have grown since the early 1970's. In Fiscal Year 1991 USDA spent over $28.4 billion for domestic food and nutrition assistance programs. In inflation-adjusted terms, per-capita spending on food and nutrition assistance has increased from approximately $26 in 1970 to approximately $73 in 1990. *Figure II-1* shows outlays for food assistance. (U.S. Executive Office of the President, 1991a, 1991b; Matsumoto, 1991)

Proposed government expenditures for domestic food and nutrition assistance for Fiscal Year 1993 are approximately $33 billion. This represents slightly over 2 percent of total proposed federal spending. (U.S. Executive Office of the President, 1991a) (Budget resources devoted to nutrition are further discussed in Section II.C.1)

Figure II-1
Outlays for food and nutrition assistance



Source: U.S. Executive Office of the President, Office of Management and Budget. Budget of the United States Government. Fiscal Year 1992.

The Federal government is not the only source of funding for nutrition programs. For example, state governments provide contributions to several Federal food assistance programs, including Food Stamps and WIC (these programs are described in *Appendix II-1* and Section II.B.3). Finally, the private sector spends a substantial amount each year on nutrition information, emergency food, and advocacy for nutrition programs.

3. Availability of Public Services and Use

In the United States, one in six persons will receive government-sponsored food assistance at some point during the year. Section II.B.3, below, and *Appendix II-1* describe the programs which provided about $28 billion in domestic food and nutrition assistance in 1991.

The major food assistance programs are available throughout the United States. In most programs, benefits are indexed to reflect inflation. Benefits are, in general, targeted to the neediest citizens. For example, in the Food Stamp Program, the average gross monthly income of 92 percent of participants is less than or equal to 100 percent of the poverty line. (Heiser, 1991) The Food Stamp Program is currently serving a record number of participants, reflecting that the program has been very responsive to the recent economic downturn and other factors.

Efforts to ensure that eligible citizens have access to food assistance programs are ongoing. In some programs efforts are being made to increase participation by certain eligible groups. For example, a five-year grant program is currently underway to encourage more institutions to participate in the School Breakfast Program (described in Appendix II-1). Another area of concern is in improving the timeliness and efficiency of the application process and caseload management. This is of particular concern in such programs as WIC and Food Stamps.

Some concern has also been raised in the U.S. regarding the availability of transportation to service sites (particularly in rural areas), provider-applicant language compatibility, and applicant literacy.

4. Food Industry: Marketing and Product Formulation

The food industry plays an increasingly important role in the nutrition of the population, as evidenced by the growing importance of processed foods and food away from home. Over 10,000 new food products were introduced in 1990. (U.S. Department of Agriculture, 1990) Increasingly, new products feature convenience (e.g., microwaveable) and/or nutrition (e.g., lowfat) characteristics.

Widespread concern with over-consumption of fat and calories have led to technological advances in food production and processing. The industry now has new tools, such as carbohydrate- or protein-based fat replacers, that are likely to accelerate the introduction of tasty reduced-fat foods in the future. (Morrison and Putnam, 1991) The role of the food industry in affecting diet is further discussed in Section III B.

The U.S. food marketing system[c] accounts for about 10% of GNP. Food production in the farm sector accounts for another 1.1% of the GNP. The U.S. food marketing system accounts for 10.1% of the U.S. civilian labor force, while the food portion of the farm sector accounts for another 1.6% of the civilian labor force. (U.S. Department of Agriculture, 1990)

B. Food Security

The definitions of food security, food sufficiency and hunger have been the topic of much debate, and no single set of definitions has achieved general acceptance in the United States. This debate is central to the issue of whether the current levels and structure of food assistance are adequate to meet the needs of the low-income population.

Furthermore, food insufficiency hunger generally exists in situations where other serious needs also exist. Consequently, food assistance should be viewed as only a part of an overall strategy which addresses other economic, social and educational needs.

1. Food Needs

a. Population Growth and Distribution

The U.S. population grew by 9.9 percent from 1980-1990. Population growth is projected to slow in coming years, falling to 7.1 percent for 1990-2000 and 5.3 percent from 2000-2010. The median age for the United States was 33 years in 1990 and is expected to rise steadily in future years. (U.S. Bureau of the Census, 1990a)

b. Nutritional Requirements

Nutritional requirements and dietary guidelines for the United States are defined by two sources: the Recommended Dietary Allowances (RDAs) and the Dietary Guidelines for Americans. The age and sex specific RDAs (*Appendix II-2*) are established and

---

[c] This includes the direct and indirect economic activity which supports food processing, wholesale, retail and food service activities. It does not include the farm sector.

periodically updated by the National Academy of Sciences and are defined as:

> "... the levels of intake of essential nutrients that, on the basis of scientific knowledge, are judged by the Food and Nutrition Board to be adequate to meet the known nutrient needs of practically all healthy persons." (National Academy of Sciences, 1989)

The RDAs for energy are set at the population mean, but the RDAs for all other nutrients are set considerably above the mean to accommodate most healthy persons, assuming a distribution of individual requirements. Accordingly, intakes below the RDA are not necessarily inadequate, but the risk of inadequacy increases to the extent that intake is less than the recommended level.

The Dietary Guidelines for Americans, which are updated every 5 years, establish seven guidelines:

- Eat a variety of foods
- Maintain healthy weight
- Choose a diet low in fat, saturated fat, and cholesterol
- Choose a diet with plenty of vegetables, fruits, and grain products
- Use sugars only in moderation
- Use salt and sodium only in moderation
- If you drink alcoholic beverages, do so in moderation

The 1990 revision of the Dietary Guidelines incorporated for the first time suggested limits on the intake of fat (30 percent of calories or less) and saturated fat (less than 10 percent of calories).

2. Food and Nutrient Availability/Food Balances

a. Yearly Trends: U.S. Food Supply

The United States produces a food supply which is, on average, adequate to meet the nutritional needs of its citizens. Analysis of food consumption data indicates that trends in the food supply reflect various nutritional concerns.

The U.S. per capita food supply has increased by about 8 percent since 1970, with more than half of this increase occurring since 1984. Higher consumption of crop products dominated most of this increase, whereas animal product consumption accounted for most of the increases in the 1970s. (These estimates are based on

estimates of food **available** for consumption, rather than actual measures of food consumption.)[d]

The steadily increasing importance of crop-derived foods compared with foods from animal products has significant nutritional importance. Spurring the rise in crop foods was higher use of grain products, vegetable fats and oils, fruits, fresh and frozen vegetables, frozen potatoes, peanuts and tree nuts. These increases resulted in increases in many nutrients available in the U.S. food supply. (Morrison and Putnam, 1991)

Per capita consumption of animal products in 1990 stayed about the same as in 1970, but the mix differed. Over the last decade, Americans have increased their consumption of lower-fat animal foods--lean cuts of red meat, poultry, fish and shellfish, and lowfat milk. Poultry's share of all meats increased from 19% in 1970 to 33% in 1990. While Americans are switching to lowfat and skim beverage milk, they are also using more fluid cream products and cheese, foods generally higher in fat. (Morrison and Putnam, 1991)

b. Per Capita Availability

Changes in per capita availability of various food products in recent years have had significant impacts on nutrition. *Table II-1* provides trends on food energy and nutrients per capita per day. *Appendix II-3* provides additional detail on changes in per capita food availability by product, and the corresponding changes in per capita nutrient intake.

---

[d] Yearly trends in food availability come from the U.S. Food Supply series, which measure the amount of food available for consumption in the United States, based on annual estimates of domestic production of food commodities adjusted for imports, exports, nonfood uses, and stock changes. Dividing this total by the U.S. population results in an estimate of consumption per capita. This series is often referred to as disappearance data to indicate that it is based on the disappearance of food through marketing channels and is not a direct estimate of consumption. Nutrient estimates are based on this disappearance data, and thus represent what is available for consumption, rather than actual nutrient intake by individuals.

TABLE II-1. U.S. FOOD SUPPLY: FOOD ENERGY AND NUTRIENTS PER CAPITA PER DAY

NUTRIENT	1970	1975	1980	1985	1988
Food energy (kcal)	3300	3300	3400	3600	3600
Protein (gm)	99	97	99	103	105
Total Fat (gm)	159	153	161	171	168
Saturated (gm)	61	56	60	62	60
Monounsaturated (gm)	66	63	64	69	67
Polyunsaturated (gm)	27	27	31	33	34
Cholesterol (mg)	490	450	450	450	440
Carbohydrate (gm)	382	383	401	411	425
Vitamin A (RE)	1500	1560	1540	1530	1630
Carotenes (RE)	500	620	620	650	770
Vitamin E (dte)	13.7	14.3	14.6	16.1	16.7
Vitamin C (mg)	105	112	113	113	118
Thiamin (mg)	2.0	2.0	2.2	2.2	2.2
Riboflavin (mg)	2.3	2.3	2.4	2.4	2.4
Niacin (mg)	23	23	24	25	26
Vitamin B6 (mg)	2.1	2.0	2.1	2.1	2.2
Folate (ug)	275	280	270	282	284
Vitamin B12 (ug)	10.4	10.0	9.4	9.4	9.1
Calcium (mg)	850	840	840	890	890
Phosphorus (mg)	1480	1450	1460	1520	1540
Magnesium (mg)	320	310	310	330	330
Iron (mg)	15.0	15.0	14.9	16.9	17.1
Zinc (mg)	12.5	12.3	12.2	12.6	12.7
Copper (mg)	1.5	1.6	1.5	1.6	1.7
Potassium (mg)	3420	3380	3340	3430	3480

Source: Rayser, N., C. Zizza and J. Rourke, 1992. Nutritional Content of the U.S. Food Supply. Washington, U.S. Department of Agriculture, Human Nutrition Service, Home Economics Research Report No. 50. In Press.

c. Food Composition Data

The continual introduction of large numbers of new food products presents a major challenge in the area of nutrition data. USDA operates the National Nutrient Data Bank (NNDB) for the purpose of deriving representative nutrient values for foods consumed in the United States (Agriculture Handbook No. 8). The data are periodically updated to reflect new products and product reformulation. (U.S. Department of Health and Human Services, and U.S. Department of Agriculture, 1981)

d. Domestic Production

U.S. domestic food production reflects U.S. farmers' cost advantages compared to farmers abroad, the effectiveness of domestic government support programs, and consumer demands. In aggregate, the United States is a major exporter of agricultural products. Over the last decade, agricultural exports have ranged from $35-40 billion, while imports ranged from $15-25 billion. The United States exports grains, oilseeds, poultry, and fats and oils and imports red meats, dairy, fruits and nuts, vegetables, sugar, coffee, cocoa, and seafood. (Putnam and Allshouse, 1991)

The U.S. food system is very capable of shifting production and procurement patterns to meet new market conditions because the types of foods produced are diverse. However, foreign sourcing of fresh produce is common during periods of the year when U.S. supplies are inadequate. The nation's strongest comparative advantages in food production are with grains, oilseeds, and poultry.

e. Food Storage, Distribution and Marketing

The United States has modern and efficient storage facilities. There is excess storage capacity for stable agricultural products, such as grains and processed fruits and vegetables. On average, U.S. food processors operate at 80% of capacity. (U.S. Department of Agriculture, 1990)

The farm-to-consumer transportation and distribution system is highly successful at moving large amounts of food products over long distances with a minimum of spoilage or delay. Due to global sourcing and improved transportation and storage systems, most items are available throughout the year.

3. Household-level Access to Food

a. Consumption (quantity, value, source)

The proportion of home food dollars spent (purchased food plus money value of nonpurchased foods) on certain foods increased between 1965 and 1977. These include meat, poultry, and fish; fruits; and soft drinks, punches, and prepared desserts. Due to price adjustments, increases in the food dollar were not necessarily accompanied by increases in the quantity consumed of those food groups.

Preliminary results of the more recent surveys indicate that intake of lowfat and skim milk, frozen vegetables and fruits, frozen juices, soft drinks, and mixtures has increased since earlier studies. At the same time, household consumption has

decreased for some foods--such as whole milk, beef fats and oils, sugar, and eggs. (U.S. Department of Agriculture, 1985)

b. Household Production (subsistence, cash crops)

Most foods consumed by U.S. households were purchased, although one out of three households reported the use of some home-produced foods in 1983. (U.S. Department of Agriculture, 1983)

c. Food Purchases

Food for use at home accounts for about 54 percent of the total food dollar and food away from home accounts for the remaining 46 percent. (Putnam and Allshouse, 1991)

From 1970 to 1990, inflation-adjusted food expenditures increased 23.5 percent, primarily due to the switch to more away-from-home eating. Much of the increased spending for food reflects more convenience and variety in food products, such as frozen dinners, ready-to-eat and other processed foods, and imported fresh fruits and vegetables, not just more food. (Manchester, 1991)

Food expenditures increase as household income increases. Black households spend approximately $10 less per week per person on food less than white households. (Smallwood, et al., 1991) Households in which the female head works full time spend significantly less on food at home than other similar households. Female-headed households with children tend to spend less on food than similar two-parent households, even after controlling for differences in household size, income education and labor force participation. (Frazao, forthcoming). In addition to income, other factors affecting food purchases include cultural food habits, education, and knowledge of nutrition.

d. Food Price Based Indicators

The United States monitors food prices through the Consumer Price Index (CPI), which measures price changes for a fixed market basket of goods and services. The CPI for all items is the most widely used measure of the general rate of inflation in the United States. In addition, indexes are calculated for major expenditures such as food. With 1982-84=100.0, the CPI for food in 1990 was 132.4, and for all items less food was 130.3. This means that the prices for food climbed relatively higher than the prices for other items during the period between 1982-84 and 1990. (Putnam and Allshouse, 1991)

e. Income and Employment (income distribution, direct transfer, access to credit, in-kind)

The household median money income in 1990 was $29,943. The poorest 20 percent of the population received 3.9 percent of

total household income; the middle 60 percent received 49.5 percent, and the richest 20 percent received 46.6 percent. (U.S. Bureau of the Census, 1991a)

The use of money income to measure household well-being and income distribution has limitations because it includes government transfer payments in cash but not in kind. Those who receive food stamps, health care, housing, tax breaks, production subsidies, or other in-kind income have consumer power beyond that of their cash income. The proportion of personal income from wages and salaries fell from 66 to 59 percent between 1970 and 1986, while transfer payments increased from 10 to 15 percent, and interest and dividends rose from 11 to 16 percent. (Senauer et al., 1991)

Unemployment in the United States stood at 7.1 percent in January 1992. Annual unemployment rates in the past decade have ranged from 9.7 percent in 1982 to 5.2 percent in 1988. (U.S. Bureau of the Census, 1990a) Unemployment compensation is available to many of the unemployed. Recent increases in the number of unemployed have led to program reforms that extend the length of time that individuals may receive unemployment compensation.

f. Consumer Subsidies (food stamps)

The Food Stamp Program (FSP), operated by USDA's Food and Nutrition Service, helps meet the basic food needs of low-income families and individuals by increasing their purchasing power. It is the largest of the food assistance programs. Coupons can be redeemed like cash for food items in one of the 220,000 authorized retail stores. The program is available nationwide and is available to all certified eligible individuals. All participants must meet poverty-related guidelines. Benefits are based on amount of income and total assets. In November 1991, the average benefit per person was a $69.31 per month. An average of 22.6 million individuals received benefits each month in 1991.

The FSP in Puerto Rico and the Northern Marianas was replaced in 1982 by a block grant program. The two territories now provide cash and coupons to participants rather than food stamps. Native American families who live on or near Indian reservations can choose whether to participate in the FSP or the Food Distribution Program which provides commodity foods.

g. Special Feeding, Congregate Meals for the Elderly, Temporary Emergency Food Assistance Program, National School Lunch Program, Soup Kitchens (excluding FSP)

The structure of food assistance programs enables many individuals to qualify for benefits from more than one program. There are several forms of program assistance to individuals or institutions. *Appendix II-1* provides additional information on domestic food assistance programs.

Food assistance programs (other than Food Stamps) provide supplemental benefits to groups with special needs, such as infants, children, child-bearing women, and the elderly and impaired adults. The Special Supplemental Food Program for Women, Infants and Children (WIC), administered by USDA's Food and Nutrition Service, serves a low-income, nutritionally at-risk clientele which consists of pregnant, post-partum and breastfeeding women; infants; and children up to the fifth birthday. WIC participants receive monthly food coupons, nutrition education, and referrals to health care and social services. The WIC program also encourages breastfeeding.

Five nutrition programs are targeted towards children and operate through schools and other child care settings. USDA's Child Nutrition programs provide both cash and commodities to program operators. Children from all income levels may receive benefits, but benefits are greater for those from low-income households. The National School Lunch Program is the largest of the Child Nutrition Programs, and provides nutritious lunches at a low cost or free to about 25 million children on an average day.

Congregate and home-delivered nutrition services, funded by the U.S. Department of Health and Human Services' (DHHS) Administration on Aging and supplemented by USDA funds, Social Services Block Grant funds and other Federal, State and local funds, provide meals to senior citizens aged 60 and over. DHHS also funds the Community Food and Nutrition Program and the Head Start Program. The Community Food and Nutrition program assists communities in coordinating food assistance programs and implementing new programs where needed. Head Start provides comprehensive health, educational, nutritional, social and other services to low-income children and their families. Nutrition services include providing for the child's nutritional needs at the program, providing access to food assistance, and nutrition education.

Several programs provide food packages to participants. The Commodity Supplemental Food Program (CSFP) has a target population similar to WIC (although elderly citizens are also eligible in some states) and often operates where WIC is not

available. The Emergency Food Assistance Program (TEFAP) provides food to low income and unemployed persons.

Many federal food and nutrition programs also provide nutrition education. These include the WIC program; the Nutrition Education and Training (NET) program, which provides nutrition training to school food service personnel and teachers; and the Expanded Food and Nutrition Education Program (EFNEP), which gives in-depth nutrition education to low-income families with young children. Several broader health-related programs, such as the Maternal and Child Health Block Grant, also include a nutrition education component.

h. Reliance on Emergency Food Outlets

The private sector also plays an important part in meeting food assistance needs. These private efforts have become known as the emergency food network. This network includes food banks, food pantries and soup kitchens, most of which are operated by nonprofit agencies or churches. Although several organizations have attempted to estimate the number of persons served through these channels, no organized, nationally representative data are available. While the private sector plays an integral part in food assistance in the United States, there are certain limitations to the services the emergency food network can provide. Problems include limited access in some geographic areas, lack of access for the homebound, limited hours, little choice of foods, and lack of consistency in nutritional quality or quantity.

4. Food Safety and Quality

Safe and adequate food supplies are essential for proper nutrition. The U.S. government and the food industry work continue to work together to improve food safety and quality and to provide a safe and abundant food supply.

a. Microbiological and Chemical Contamination

Despite advances in technology, foodborne diseases continue to be a significant public health problem, of even greater concern than chemical contamination. At least 7 million cases occur each year. Most foodborne diseases are caused by microbiologically contaminated food. Salmonella enteritidis, Campylobacter jejuni, Escherichia coli 0157:H7 and Listeria monocyogenes are four of the most important foodborne pathogens in the United States. Incidence rates for these pathogens in 1987 were 18, 50, 8 and 0.7 per 100,000 respectively. (U.S. Department of Health and Human Services, 1990) Recently a slight downward trend appears to be occurring in reported salmonellosis, in part in response to implementation of enhanced control measures and public education campaigns. (Blumenthal, 1990)

Chemical substances may occur in food due to environmental contamination. For example, food in lead soldered cans can be a hazard; however, a voluntary program has brought about almost a complete change to non-lead soldered cans. Although consumers perceive pesticide residues in food to present an important health risk, there is no indication that pesticides residues occurring within the limits established by the U.S. Environmental Protection Agency have caused any harm to human health. Veterinary drugs, a key element in increasing animal productivity, are also considered safe when residue levels are maintained below the maximum levels determined to be safe by the Food and Drug Administration.

b. Food Processing Capabilities and Effects

The government encourages the food industry to use statistical process control systems for food safety, such as the Hazard Analysis and Critical Control Points system. This system can work in any food processing plant, but is especially suited to the highly sophisticated food processing plants developed in the last 20 years. The food industry is, for the most part, voluntarily implementing such systems and participating in government-industry training programs.

c. Post Harvest Management and Grading

The government offers a voluntary pay-for-service grading program to users. However, in some cases food producers require grading according to government standards, either by the government or private inspectors, before they will purchase a raw product. As shown in *Table II-2*, the percent of food product graded varies considerably. (U.S. Department of Agriculture, 1991a)

TABLE II-2. Examples of Grading of Food in the U.S., 1989	
Food Item	Percent Graded
Butter	95
Fruits & vegetables:	
fresh	50
frozen	55
canned	45
Beef	65
Poultry:	
eggs (shell, to consumers)	39
turkey	90
other poultry	60
Seafood	10

d. Food Safety, Sanitation, Quality

The U.S. food industry has an economic stake in providing safe food. The DHHS Food and Drug Administration and the USDA Food Safety and Inspection Service, with a combined 1991 budget of approximately $1.1 billion, regulate the food industry to ensure government regulations and guidelines for good manufacturing, sanitation, food safety and accurate labeling are followed. (Executive Office of the President, 1991a) The U.S. food control system is continually being refined to keep pace with emerging food safety concerns and consumer demands.

e. Nutrition and Ingredient Labeling

Regulations governing food labeling are administered by USDA's Food Safety and Inspection Service (meat and poultry products) and by the DHHS Food and Drug Administration (most other foods). In recent years, consumer interest in nutrition and diet has increased and the food industry has responded by providing increased nutrition information on food labels, on a voluntary basis.

Because some of this information was confusing, misleading and/or inconsistent, the Federal Government initiated a major food label reform initiative. A major element of this initiative is the implementation of the Nutrition Labeling and Education Act of 1990 (NLEA). This law calls for complete nutrition and ingredient labeling on all packaged foods under the jurisdiction

of the FDA. The NLEA also provides for a voluntary program for retailers to provide nutrition information on fresh fruits, vegetables and fish.

In November 1990, the DHHS and USDA jointly announced a major set of food labeling regulatory proposals, which are scheduled to be effective by May 1993. The regulations will require nutrition information on nearly all processed foods; nutrient data will be presented on a consistent basis; claims about the nutrient content of products will be complete, truthful, and non-misleading; and food labels may inform consumers about the role of diet in reducing the risks of certain chronic diseases. The food label will form the basis of a coordinated Federal education program aimed at instructing the consumer on how to use the food label in selecting foods that are consistent with the Dietary Guidelines for Americans.

Ingredient and nutrient content of government commodities can also help meal planners make better use of these products. The USDA Food and Nutrition Service provides a publication to all school food authorities on the nutrient values for various key nutrients in commodity foods provided by the commodity program.

f. Fortification Requirements

Fortification of staple food products has had a major impact on public health in the United States. Fifty to sixty years ago, single micronutrient deficiency diseases were very common in large portions of the population, especially in the rural South. Government regulations were established calling for the fortification of basic foods, such as flour and milk. Today, vitamin deficiency diseases, such as beri beri or pellagra, are virtually non-existent in the United States. Current regulations require the fortification of milk and margarine with vitamin A, with vitamin D optional, and permit the enrichment of a range of other products.

Further, national fortification policy establishes a uniform set of principles that serves as a model for rational addition of nutrients to food. Under this policy, it is inappropriate to fortify meat, poultry, or fish products; sugars; or snack foods such as candies or carbonated beverages. Otherwise, nutrients may be added to 1) correct scientifically recognized dietary insufficiencies, 2) restore nutrients lost in storage, handling, or processing, 3) balance vitamin, mineral or protein content with respect to total caloric content, and 4) avoid nutritional inferiority for foods that replace traditional foods in the diet.

g. Household Level Food Handling Practices

The individual consumer plays an important role in keeping food safe. In the United States, 70 percent of principal household

food preparers routinely refrain from leaving perishable food out of the refrigerator for over 2 hours, and after contact with raw meat and poultry, 66 percent wash cutting boards with soap and 55 percent wash utensils with soap. The federal government promotes 7 guidelines for safe food handling:

1. Wash hands before handling food.
2. Keep it safe, refrigerate.
3. Don't thaw food at room temperature.
4. Wash hands, utensils and surfaces again after contact with raw meat, poultry, and fish.
5. Never leave perishable food out over 2 hours.
6. Thoroughly cook raw meat, poultry, fish and eggs.
7. Freeze or refrigerate leftovers promptly.

C. Living Conditions, Health Status, Health and Social Services

1. Environmental Conditions

a. Water Availability

In the United States, drinking water is supplied to approximately 80 percent of the population by community water systems, and to nonresidential locations such as schools and factories by small scale suppliers. The remainder of the population is served by private wells, surface water, cisterns and springs. In 1988, approximately 75 percent of community water systems met safe drinking water standards established by the Environmental Protection Agency. (U.S. Department of Health and Human Services, 1990)

The most acute and severe public health effects from contaminated water, such as cholera and typhoid, have been eliminated in the United States. However, hazards such as radionuclides, lead, chlorine-resistant microbiological contaminants and disinfection by-products remain in the water supply. (U.S. Department of Health and Human Services, 1990)

Community water fluoridation is the single most effective and efficient means of preventing dental caries. In 1989, 62 percent of the U.S. population was served by water systems providing levels of fluoride considered optimal. (U.S. Department of Health and Human Services, 1990)

b. Agricultural Practices (e.g., pesticide use, residues, deforestation, soil erosion, irrigation, level of technology)

Agricultural production in the United States is characterized by a high level of technological development. Part B.4 of this section discusses food safety implications of chemical and

pesticide use, and Section III.B discusses some of the effects of technological and environmental policies on food production.

2. Household Caring Capacity[c]

In 1990, about 35 percent of all households were family households with children under the age of 18. Family households with children consist of married-couple (76%) and single-parent (24%) families. Eighty-five percent of single-parent families are headed by women. As discussed in Section II. A, children in these households are at high risk of poverty.

Rising rates of single motherhood (27 percent of all live births in 1988) and the increased labor force participation of mothers have significantly altered the rearing of American children. (National Center for Health Statistics, 1989) In 1988, almost two-thirds of mothers with children under the age of 18 worked outside the home. An estimated 57 percent of mothers of preschool children were in the labor force in 1990, compared to 28 percent in 1970. (Kisker, et al., 1989).

3. Social Conditions/Problems

a. Community and State Welfare Support

Food assistance programs and nutrition services are only one part of an array of social insurance programs in the United States. Other programs include those established by the Social Security Act to provide protection against wage loss resulting from retirement, prolonged disability, death, or unemployment, and to provide protection against the cost of medical care during old age and disability.

State-administered public assistance programs (Aid to Families with Dependent Children (AFDC), emergency assistance and general assistance) and the Federal Supplemental Security income program administered by the Social Security Administration provide benefits to persons who qualify. AFDC and emergency assistance are, in part, federally funded while the costs of general assistance are met entirely with State and local funds.

Programs providing health and welfare services are aided through Federal grant s to states for child welfare services, social services, vocational rehabilitation, activities for the aged, maternal and child health services, maternity and infant care projects, comprehensive health services, and a variety of public health activities. All States also provide protection against

---

[c] Caring capacity refers to the ability and commitment of households and society to adequately support those nutritionally vulnerable members who cannot care for themselves.

work-connected injuries and deaths, although some States exclude certain workers.

b. Homelessness

A lack of housing or inadequate housing can affect an individual's or family's nutritional status by limiting the ability to acquire, store and prepare food. Debates continue about how many homeless persons there are in the United States; physically counting every homeless person is virtually impossible and accurately estimating the population can be just as difficult. The U.S. Government currently estimates the homeless population to be between 600,000 to 700,000 people. (Interagency Council on the Homeless)

The homeless population is thought to be primarily composed of single, adult males in urban areas, although major U.S. cities have experienced increases in requests for shelter by homeless families with children. In efforts to combat homelessness, the U.S. Government increased funding for homeless assistance over 40% between FY 1989 and 1990. In FY 1990, the largest portion of the $721 million in Federal homeless assistance went toward housing; however, significant amounts were also directed at homeless prevention, assistance to the mentally ill homeless and persons with alcohol and drug problems, general health aid, education and training, and food assistance. (Interagency Council on the Homeless, 1991)

4. Health Status and Health Services

Prevention and treatment of the nutrition-related health problems discussed in Section I is affected by the availability and accessibility of health services. A majority of Americans have access to health care; however, in 1990, an estimated 35 million Americans were without any form of health insurance. (Employee Benefits Research Institute, 1991) Many of these people are those who most need clinical preventive services. From 1973 to 1982, there was a significant increase in the use of eight routine preventive services among adults and children. However, people with low-income, low-education levels, and people of Hispanic origin, were among the least likely to have ever received all 8 screening procedures. (U.S. Department of Health and Human Services, 1990)

In 1987, approximately 40% of health care expenditures came from public sources--Federal, State, or local governments, mainly through the Medicare and Medicaid programs. For people 65 and older who are eligible, Medicare provides: (1) a hospital insurance plan which covers hospital and related services and (2) a voluntary supplementary medical insurance plan. Under Medicaid, States offer basic health services to eligible low-

income persons. (United States Department of Health and Human Services, 1990)

5. Education Levels, Trends

Education levels are one of a series of societal and behavioral factors that influence eating patterns and approaches to changing them and, hence, affect health risks and health outcomes. (Axelson, 1986) Generally, persons with more education are nonsmokers and have healthier patterns of eating, lower serum cholesterol levels, greater physical activity, and leaner body mass indices. (National Research Council, 1989) They also tend to have lower prevalence of nutrient deficiency diseases. For example, both iron status and iron intake in women have been shown to be improved with increased education. (Life Science Research Office, 1989) In addition, in the U.S., the likelihood that a woman will breastfeed increases with education. (National Center for Health Statistics, 1988c)

In 1989, 79 percent of people aged 20 through 21 had graduated from high school with a regular diploma. (U.S. Department of Health and Human Services, 1990) In 1988, over 20 percent of all persons aged 25 or older had attended 4 or more years of college. (U.S. Bureau of the Census, 1990d) In 1985, expenditures for public education in the U.S. were among the highest of any country for which data were available. (U.S. Bureau of the Census, 1990e) Nonetheless, up to 24 million adults -- nearly 13 percent of the population -- are functionally illiterate and as many as 25 million more adult workers need to update their skills or knowledge. (U.S. Department of Education, 1990)

There is general concern and recognition of the need to strengthen the American educational system. In recognition of that need, the President of the United States in 1991 unveiled America 2000, a decade long national strategy built around achieving six national goals for education. These goals focus on improving children's readiness for school (including nutritional status) and the school environment, as well as on improving educational standards.

D. Lifestyles and Behavior

1. Association of Lifestyle to Disease

Health habits and lifestyle choices affect nutritional status and health throughout the life cycle. Lifestyle behaviors linked with nutritional status in Americans include smoking, substance/alcohol abuse, and lack of exercise. Many of these behaviors and health beliefs begin in childhood and adolescence and become established behaviors by early adulthood.

There are an estimated 18 million Americans with alcohol problems, which may precipitate nutrient deficiencies, lead to cirrhosis of the liver and increase blood pressure. (U.S. Department of Health and Human Services, 1988) The use of illicit drugs may also contribute to poor nutritional status in the United States. For example, cocaine use by pregnant women may lead to fetal hypoxia and reduce the nutrient supply to the fetus. Drug use is particularly a problem for the adolescent population, and one in four may be at risk for alcohol and other drug problems and their consequences. (U.S. Department of Health and Human Services, 1990)

Use of alcohol and/or illegal drugs during pregnancy can cause increased risk of miscarriage or death, low birthweight and birth defects. While data on prevalence of alcohol and other drug use by pregnant women are sparse, there are indications that the problem is growing. For example, the incidence of drug-exposed newborns has been estimated to be between 4 and 18 percent of all live births. (Select Committee on Children, Youth and Families, 1989)

Physical activity may help reduce the risk and manage a variety of nutrition-related conditions including heart disease, hypertension, obesity, diabetes, and osteoporosis. However, many Americans are sedentary; in 1985, only 40% of surveyed Americans reported that they exercised or played sports regularly and only 28% were considered very physically active as defined by energy expenditure of 3 or more kcal/kg body weight/day. (National Center for Health Statistics, 1988a) Physical inactivity is often interrelated with dietary factors, both of which affect body weight.

Approximately 30 percent of women aged 15-44 use oral contraceptives. (National Center for Health Statistics, 1988b) There is some evidence to suggest that nutritional status of zinc, folacin, and vitamin B6 are negatively affected by oral contraceptive use. In addition, use of oral contraceptives is associated with cardiovascular risk factors, including elevated levels of blood glucose, cholesterol, and blood pressure. (Russel-Briefel et al., 1985)

2. Behaviors Affecting Nutritional Status (including food consumption, eating patterns, and food preparation practices; lifestyle behaviors related to diet; and infant feeding)

From 1977-78 to 1985, numerous changes occurred in the food consumption and eating patterns of Americans. Among these changes were: 1) increased consumption of mixed dishes containing primarily meat, fish, or poultry, and decreased consumption of red meats as separate items; and 2) increased consumption of grain-based mixtures like pastas and pizzas. Together, these two

trends suggest an increased preference for mixed dishes of all kinds. (Life Science Research Office, 1989) This shift to mixed dishes has prompted concern over food preparation practices that may incorporate "hidden" fat into the diet.(Krebs-Smith, et al, 1990)

Recent studies indicate a significant increase in the percentage of food eaten away-from-home. For women, those employed outside the home, living alone, having a higher income, and having a higher level of education were most likely to eat a higher proportion of their caloric intake away from home. In general, women who consumed higher proportions of their caloric intake away-from-home had greater total intakes of calories and dietary fat. The nutrient density of their diets (nutrient intake per 1,000 calories) was generally lower for dietary fiber, calcium, folacin, and vitamin C. (Haines et al., In Press). Maternal employment has been found to have no detrimental effect on the nutritional adequacy of young children's diets. In addition, maternal employment did not significantly contribute to overconsumption of total fat, saturated fat, cholesterol, or sodium. (Johnson, et al, 1992)

Meal patterns also changed between 1977 and 1985, as snacking became the norm. (U.S. Department of Agriculture, 1985) In 1985, adult women 19 to 50 years of age and their one-to-five year old children were most likely to report a total of four eating occasions per day (including meals and snacks), whereas in 1977, three was the usual number. Women and children also identified more eating occasions as snacks in 1985. (Welsh and Guthrie 1991) Snacking can have both positive and negative effects on dietary quality. Children who snacked more had higher intakes of milk and milk products, as well as fruits, when compared to children who snacked less; however, they also had higher intakes of sugars and sweets. (McNaughton et al., 1989)

In 1985, women who smoked cigarettes consumed fewer fruits and vegetables and more eggs, sugars, regular carbonated soft drinks, coffee and alcoholic beverages than nonsmokers. Female smokers had significantly lower intakes of protein, dietary fiber, vitamin C, and thiamin, and higher cholesterol intakes per 1,000 kilocalories than female nonsmokers. (Larkin et al., 1990)

Most estimates indicate that about a quarter of the adult population is overweight and that this value has changed little in the past 15 years. (Life Science Research Office, 1989) For example, in 1985, 20 percent of adult women 19 to 50 years of age were overweight, based on a body mass index calculated from their self-reported weights and heights. This number was virtually unchanged from 1977-78, despite the tremendous popular interest in weight reduction. Overweight women were more likely to report being on a weight reduction diet than other women; however, they also were more likely to rate their leisure activity as "light"

(taking a stroll occasionally, etc.) than normal weight or underweight women. (Moshfegh et al., 1989)

During infancy (birth to one year), breastfeeding provides the best nutrition, with iron-fortified infant formula providing the most appropriate substitute when breastfeeding is not chosen. In the United States, approximately 37 percent of all women are breastfeeding their infants at one month of age. However, only 26 percent of all low income women are breastfeeding at 1 month of age. (National Center for Health Statistics, 1988c) Over the years, the prevalence of breastfeeding has fluctuated in the United States. Between 1971 and 1982, there were nationwide increases in both the percent of children ever breastfed, and the percent still breastfeeding at six months. Some data, however, suggest that both the initiation and the duration of breastfeeding declined between 1984 and 1989, particularly among less educated and lower income women. (Ryan, Rush et al., 1991)

For infants not breastfed, those who are fed primarily iron-fortified formulas have diets that provide adequate but not excessive intakes of recommended nutrients, but do not receive any immunological protection in the absence of immunization. The WIC program provides infant formula for about one-third of all infants in the United States (but also encourages mothers to breastfeed by providing supplemental food packages and other activities, such as clinic-based peer counseling programs). Diets based on cow's milk are more likely to be unbalanced, with low intakes of iron and linoleic acid, an essential fatty acid, and excesses of several nutrients that could potentially contribute to high renal solute loads. Diets of infants fed lowfat milks are especially low in linoleic acid. (Ernst et al., 1990) Additionally, cow milk feeding has been shown to induce gastrointestinal blood loss in infants, which may be severe enough to cause anemia. (Ziegler, et al., 1990)

3. Public Awareness and Attitudes on Food and Health Education

The Government conducts annual surveys designed to determine how people's attitudes and knowledge about diet and health. Awareness of the adverse health effects associated with a diet high in fat has increased from 8% in 1970 to 55% in 1989. (Putler and Frazao, 1991) Increases in awareness and public concern about nutrition have contributed to changed in consumer demand for food products. There has been a large shift from whole milk to low-fat and skim milk, consumption of red meats and eggs has declined, while consumption of poultry, fish, fruits and vegetables has increased.(Putnam, 1990)

Although changes in food demand have lowered average fat intake, some changes actually represent substitutions of one source of fat for another. For example, whereas many women have decreased

their consumption of separable red meats, they have increased their fat intake from salad dressings, cheese and meat mixtures.(Putler and Frazao, 1991) Difficulties in translating general nutrition knowledge into specific food choices are likely responsible for ineffectual dietary changes.

In addition, dietary perceptions of the population may not match reality, especially for fat, saturated fatty acids, sodium, and weight. For example, for fat and saturated fat, about one-half of the population believes their diets are "about right" compared to what is most healthful, although average fat intakes exceeded recommendations and only about 1 in 10 women aged 19-50 has intakes meeting current recommendations. Older women are more likely than younger women to consider dietary guidance about fat important, and to believe "strongly" in the guidance. Putting guidance into practice may be affected by knowledge, by beliefs about ability to achieve recommendations, and by confusion about which guidance to follow. (Cleveland and Tippett, 1991)

As noted above, demand for low-fat foods has spurred the introduction of reduced-fat products.(Morrison and Putnam, 1991) Other changes in consumer demand indicate that the public is concerned about nutrition and health. For example, products emphasizing oat bran became more common when it was reported that oat bran had beneficial health effects. Other trends appear to reflect a concern with overweight and sugar consumption. In 1992, diet soft drinks increased to 30% of the total soft drink market, up from 5% in 1970 (Maxwell, 1992). Consumption of noncaloric sweeteners increased nearly 2.5 times between 1980 and 1992. (Vuilleiumeir, 1992))

REFERENCES FOR SECTION II

Axelson, M.L., 1986. "The impact of culture of food-related behavior". Ann. Rev. Nutr. 6:345-63.

Blumenthal, D., 1990. "Salmonella Enteritidis: From the Chicken to the Egg", FDA Consumer, 24:6-10.

Cleveland, L.E., and Tippet, K, 1991. "Report on the Diet and Health Knowledge Survey", in Agriculture: A World of Change, Proceedings of Outlook '91. U.S. Department of Agriculture.

Employee Benefits Research Institute, 1991. EBRI Report, March 1991, Washington D.C. From Current Population Survey, 1990, U.S. Bureau of the Census.

Ernst, J.A., M.S. Brady, and K.A. Rickard, 1990. "Food and Nutrient Intakes of 6- to 12-Month-Old Infants Fed Formula or Cow Milk: A Summary of Four National Surveys". J. Pediatr. 117: S86-S100.

Frazao, E., forthcoming. Food Spending by Female-Headed Households. Technical Bulletin, Economic Research Service, U.S. Department of Agriculture, forthcoming.

Haines, P.S., B.M. Popkin, D.K. Guilkey, and D.W. Hungerford, In Press. "Dietary Status and Eating Patterns". In: Perspectives on the Diets of American Women and Children: Factors Affecting Dietary Status As Measured in the Continuing Survey of Food Intakes by Individuals, 1985. HNIS Administrative Report, Human Nutrition Information Service, USDA.

Heiser, N., et al., 1991. Characteristics of Food Stamps Households, prepared for U.S. Department of Agriculture, Food and Nutrition Service by Mathematica Policy Research, Inc.

Hoppe, Robert A, 1991."Rural Poverty Stabilizes, 1991." Rural Conditions and Trends, Spring 1991, Vol. 2, No. 1, pp. 16-17.

Interagency Council on the Homeless, 1991. The 1990 Annual Report, Washington, D.C.

Johnson, R.K., H. Smickilas-Wright, and A. Crouter, 1992. Journal of the American Dietetic Association, February 1992, Volume 92, No. 2.

Kisker, Ellen, R. Maynard, A. Gordon and M. Strain., February 1989.The Child Care Challenge: What Parents Need and What is Available in Three Metropolitan Areas. Prepared by Mathematica Policy Research Inc., for the U.S. Department of Health and Human Services. Washington, D.C.

Krebs-Smith, S.M., F.J. Cronin, D.B. Haytowitz and D.A. Cook, 1990. "Food Group Sources of Energy-Yielding Nutrients, Cholesterol and Fiber in Diets of Women: Effect of Methods of Categorizing Food Mixtures", J.Amer. Diet. Assoc. 90:1541-1546.

Larkin, F.A., P.P. Basiotis, H.A. Riddick, K.E. Sykes, and E.M. Pao, 1990. "Dietary Patterns of Women Smokers and Non-Smokers". J. Amer. Diet. Assoc. 90:230-237.

Life Sciences Research Office, Federation of American Societies for Experimental Biology. 1989. Nutrition Monitoring in the United States--An Update Report on Nutrition Monitoring. Prepared for the U.S. Department of Agriculture and the U.S. Department of Health and Human Services. DHHS Publication No. (PHS) 89-1255. Public Health Service. Washington DC: U.S. Government Printing Office.

Manchester, Alden, 1991. U.S. Food Spending and Income: Changes Through the Years. Economic Research Service, U.S. Department of Agriculture, AIB-618, January, 1991.

Matsumoto, Masao, 1991. "Recent Trends in Domestic Food Programs." Food Review, April-June 1991.

Maxwell, John, 1992. The Maxwell Report, Wheat First Securities, Richmond Va, 1992.

McNaughton, J.P., E.S. Bryant, L.K. Pellum, and M.A. Argo, 1989. "Snacking Patterns Effect on Food and Nutrient Intake for Women and Children". J. Amer. Dietet. Assoc. 89 (Suppl.): A-124.

Morrison, Rosanna M. and Judy Putnam, 1991. "Lower Fat Foods: New Technology, Increased Demand." Agricultural Outlook, October, 1991.

Moshfegh, A.J., S. Cristofar and P.P. Basiotis, 1989. "Weight Status of American Women: Their Profile of Associated Characteristics". J. Amer. Diet. Assoc. 89 (Suppl.): A-125.

National Academy of Sciences, National Research Council, Committee on Diet and Health, Subcommittee on the Tenth Edition of the RDAs. 1989. Recommended Dietary Allowances. Washington, D.C, National Academy Press.

National Center for Health Statistics, 1988b. Data from the National Survey of Family Growth, 1988b, preliminary data.

National Center for Health Statistics, C.A. Schoenborn, 1988a. "Health Promotion and Disease Prevention, United States, 1985". Vital and Health Statistics, Series 10, No. 163 DHHS Publication No. 1250.

National Center for Health Statistics, 1988c. National and Maternal and Infant Health Survey, Hyattsville, MD, U.S. Department of Health and Human Services.

National Research Council, 1989. Diet and Health: Implication for Reducing Chronic Disease Risk. Report of the Committee on Diet and Health, Food and Nutrition Board, Commission on Life Sciences. Washington, D.C. National Academy Press.

Putler. D. and E. Frazao, 1991. "Diet/Health Concerns About Fat Intake", Food Review, vol.14, January-March, 1991.

Putnam, J., 1990."Food Consumption", National Food Review, vol. 13, July-September 1990.

Putnam, Judith Jones, and Jane E. Allshouse, May 1991. Food Consumption, Prices, and Expenditures, 1968-89. Economic Research Service, U.S. Department of Agriculture, Statistical Bulletin 825, May 1991.

Russel-Briefel, R., T. Ezzati, R. Fulwood, and J. Perlman, 1986. "Oral Contraceptive Use and Cardiovasular Risk, United States, 1976-1980", Preventive Medicine. 1986

Ryan, A.S., D. Rush, F.W. Krieger, and G.E. Lewandowski, 1991. "Recent Declines in Breastfeeding in the United States, 1984 through 1989", Pediatrics, Vol. 88 No.4, October 1991.

Select Committee on Children, Youth and Families, 1989. Born Hooked: Confronting the Impact of Perinatal Substance Abuse. Report on hearing Held April 12, 1989, Washington D.C.

Senauer, B., E. Asp, and J. Kinsey. 1991, Food Trends and the Changing Consumer. St. Paul, MN: Eagen Press.

Smallwood, David M., Noel Blisard, and James R. Blaylock, May 1991. Food Spending in American Households, 1980-88. Economic Research Service, U.S. Department of Agriculture, Statistical Bulletin No. 824, May 1991.

U.S. Bureau of the Census, 1990a. Current Population Reports. Series P-25, No. 1018. Washington D.C, U.S. Government Printing Office.

U.S. Bureau of the Census, 1990b. Statistical Abstract of the United States, 1990, from U.S. Department of Agriculture, Economic Research Service based on U.N. data, National Account Statistics, annuals; and country yearbooks. Washington, D.C., U.S. Government Printing Office.

U.S. Bureau of the Census, 1990c. Statistical Abstract of the United States, 1990, from Current Population Surveys, "Employment and Earnings". Washington D.C, U.S. Government Printing Office.

U.S. Bureau of the Census, 1990d. Statistical Abstract of the United States, 1990, from Current Population Reports, series P-20, Nos. 415, 428 and forthcoming reports. Washington D.C, U.S. Government Printing Office.

U.S. Bureau of the Census, 1990e. Statistical Abstract of the United States, 1990, from United Nations Educational, Scientific, and Cultural Organization, Paris, France, Statistical Yearbook. Washington D.C, U.S. Government Printing Office.

U.S. Bureau of the Census, 1991a. "Measuring the Effect of Benefits and Taxes on Income and Poverty: 1990", Current Population Reports. Series P-60, No. 450. Washington, D.C, U.S. Government Printing Office.

U.S. Bureau of the Census, 1991c. "Money Income of Households, Families, and Persons in the United States: 1990." Current Population Reports. Series P-60, No. 174. Washington, D.C., U.S. Government Printing Office.

U.S. Bureau of the Census, 1991d. "Poverty in the United States: 1990," Current Population Reports. Series P-60, No. 175. Washington D.C., U.S. Government Printing Office.

U.S. Department of Agriculture, 1991a. 1990 Fact Book of Agriculture. Miscellaneous Publication No. 1063. Washington, D.C., U.S. Department of Agriculture.

U.S. Department of Agriculture, November 1990. Food Marketing Review, 1989-1990. Agricultural Economic Report No. 639. Economic Research Service, U.S. Department of Agriculture.

U.S. Department of Agriculture, 1983. Food Consumption: Households in the United States, Seasons and Year 1977-78, NFCS 1977-78 Rep. No. H-6. Washington, D.C, Human Nutrition Information Service, USDA.

U.S. Department of Agriculture, 1985. Nationwide Food Consumption Survey, Continuing Survey of Food Intakes by Individuals,Women 19-50 Years and Their Children 1-5 Years, 1 Day, 1985. NFCS, CSFII Report No. 85-1. Hyattsville, MD, U.S. Department of Agriculture,

U.S. Department of Education, 1991 America 2000: An Education Strategy Sourcebook. Washington, D.C.: Department of Education.

U.S. Department of Health and Human Services, 1990. Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Washington, D.C, U.S. Government Printing Office.

U.S. Department of Health and Human Services and U.S. Department of Agriculture, 1981. Joint Implementation Plan for Comprehensive Nutrition Monitoring System DHHS-USDA, unpublished document, August, 19, 1981.

U.S. Department of Health and Human Services, 1988. The Surgeon General's Report on Nutrition and Health. DHHS (PHS) Publ. No. 88-50210. Washington, D.C., U.S. Government Printing Office.

U.S. Executive Office of the President, Office of Management and Budget, 1991a. Budget of the United States Government, Fiscal Year 1992, Transmitted to the Congress February 1991. Washington, D.C., U.S. Government Printing Office.

U.S. Executive Office of the President, Council of Economic Advisors, 1991b. Economic Report of the President, 1991, Transmitted to the Congress February 1991. Washington, D.C., U.S. Government Printing Office.

Vuilleiumier, Stephen, 1992. "U.S. Sweetener Supply/Demand Outlook", presented at the International Sweetener Colloquim, Fort Lauderdale, Fla, February 24, 1992.

Welsh, S. and Guthrie, J.F., 1991. Changing American Diets. In: Micronutrients in Health and in Disease Prevention, A. Bendich and C.E. Butterworth (eds.). New York, Marcel Dekker, Inc.

III. ANALYSIS OF CURRENT POLICIES, PROGRAMS, INTERVENTIONS AFFECTING NUTRITIONAL STATUS

A. Impact of Programs, Projects and Policies Directed at Preventing Nutritional Problems and Improving Nutritional Status.

1. Public Assistance

In 1985, food assistance comprised about 15 percent of the $132 billion spent on the 59 major means-tested public assistance programs.(Germanis and Bavier, 1986) Food assistance affects nutrition directly by providing program participants with access to more nutritious diets. It also affects individual nutrition indirectly through its relationship with agricultural policy--maintaining the market for agricultural products through increased purchasing power and serving as an outlet for surplus commodities obtained through price supports. The following paragraphs describe the effects of the largest domestic food assistance programs: the Food Stamp Program (FSP), the school nutrition programs--National School Lunch Program (NSLP), School Breakfast Program (SBP) and the School Milk Program (SMP)--and the WIC Program. These programs accounted for approximately 90 percent of domestic food assistance in 1991.

Compared to eligible nonparticipating households, FSP participants spend more in total on food, and spend more on food at home and less on food away from home. Participation in FSP increases the availability of nutrients in the household food supply, though the average availability of each of twelve selected nutrients exceeds the RDA for both participating and eligible nonparticipating households. Participating households also obtain more nutrients per dollar spent on food used at home. Young children in FSP households have higher average intakes of most nutrients than do low-income non-participants, but among women ages 19-50, food stamp recipients have slightly lower nutrient intakes than do low-income non-participants. (Fraker, 1990)

When compared to other students who eat lunch, participants in the NSLP obtain a greater percentage of the RDA for energy and all nutrients studied except for vitamin C and iron. In 1980, it was determined that the nutrient content of breakfasts served in the SBP was not on par with home breakfasts for certain nutrients of public health significance, especially iron. These deficiencies have been addressed by altering the meal pattern to increase the quantity of iron in SBP breakfasts. The Special Milk Program increases participant's intake of energy, as well as intakes of nutrients found in milk. (Wellisch et al., 1983; Hanes et al., 1984)

Prenatal participation in the WIC program has been found to improve infant birthweight. Each dollar spent by WIC for Medicaid-eligible pregnant women saves from $1.77 to $3.13 in Medicaid costs during the first two months after birth. These positive impacts are complementary and additive to the positive impacts of prenatal care. (Devaney et al., 1990/1991) Prenatal participation in WIC increases the intake of food energy and 14 nutrients, increases the mean duration of gestation by 1.4 days, increases infant head circumference, and has been associated with increases in vocabulary scores and backward digit memory. Children enrolled in WIC have significantly higher intakes of Vitamin C, thiamin, niacin and Vitamin B_6. (Rush et al., 1986)

2. Activities of Private Voluntary Groups (NGO's)

Non-government organizations (NGOs) have had an important role in shaping public policies designed to address hunger and alleviate malnutrition in the United States, particularly with the assumption of the federal government in 1960 of the dominant food security role in modern nutrition policy. Prior to 1960 the NGO community consisted primarily of organizations such as the American Dietetic Association (ADA) and the American Home Economic Association, both of which focused on membership service and general nutrition education. Two other national organizations did play a role in providing food assistance under specialized circumstances. The Red Cross provided food in emergency situations, and the Salvation Army has historically provided food aid to the homeless.

After 1960, with the explosion of federal intervention to provide food assistance, the nature and character of the NGO community changed radically. New NGO organizations emerged as advocates for achieving food security in America. Some groups addressed the general problem of poverty and hunger, while others focused on special groups at risk -- families, children away from home, elderly persons, and infants and mothers. Two broad categories of NGO organizations have evolved. One is a group of citizen advocates (including consumer groups), organizations which operate on the national or state and local levels. The other is a class of professional organizations whose members are managers and administrators of individual federal programs. An example is the American School Food Service Association which represents about 30 percent of the state and local community professionals who manage the delivery of school meals.

The NGO advocate community has helped to shape the pace, scope and direction of certain federal programs. The citizen advocate groups, while small, are skillful lobbyists in Congress and state legislatures. Together with lobbyists from the professional NGO groups, they regularly promote increases in program funding and legislative changes in program provisions that improve benefits

for individuals and families. Both NGO groups conduct research and consult with the staff of federal agencies in developing regulations for the food programs, and the citizen activist groups also use legal action, such as lawsuits, to obtain rule changes or to block regulations which they believe are harmful.

NGO activity also proliferated at the local level, particularly after 1980, in response to poverty rates and the increasing perception of food insecurity. While emergency food centers and soup kitchens have been operated by local organizations for decades, the number of organizations and local sites providing emergency assistance has increased sharply over the past decade, particularly in suburban localities.

Another phenomenon of the past decade has been the active role of national NGO organizations in shaping nutrition education and surveillance activities. Professional nutrition organizations -- i.e., ADA, Society for Nutrition Education and others -- have led the legislative lobbying for a national nutrition surveillance program which became law in 1990. Recently the ADA, the American Academy of Family Physicians and the National Council of Aging, Inc., joined together to sponsor the Nutrition Screening Initiative, a five-year effort to promote routing screening and better nutrition care. The project's initial focus is on older adults. NGOs have also played an important role in encouraging breastfeeding promotion in the WIC program. For example, organizations such as La Leche League International and NURTURE have assisted in providing peer counselor training on breastfeeding in WIC centers in 17 states.

3. Nutrition Education including Dietary Guidelines.

Americans receive information about nutrition from many sources. These include government-sponsored nutrition education, reports in books, newspapers, magazines, radio, and television; advertising and public service announcements; food labeling and packaging; and education by professionals as a component of health care. The information is derived from a variety of sources and is not always complete and accurate, and may lead to consumer confusion. Government and professional groups have been organizing and working with industry to limit misinformation, and to ensure that accurate nutrition information and education be available to consumers.

The Dietary Guidelines for Americans, which have been issued jointly by USDA and DHHS every 5 years beginning in 1980, represent federal policy for nutrition education of healthy Americans. Presentation of a single set of high priority dietary guidelines is an effective way of presenting nutrition information that elicits excellent cooperation among federal, state, public and private health organizations in getting important nutrition and health information to the general public.

In addition to a factual print message, more emphasis is being given to developing materials which are likely to influence people to change behaviors, reach people directly through reading and television, and target select population subgroups appropriately.

As described in Chapter II and Appendix II-1, many federal programs provide nutrition education. The federal government has a strong commitment to providing nutrition information to consumers, researchers, educators, health professionals and others. Several federally funded information centers exist within USDA and DHHS. Information is available through a variety of mediums, including direct on-line access to certain databases.

4. Nutrition Monitoring

The National Nutrition Monitoring and Related Research Program (NNMRRP) provides information about factors that bear on the contribution that nutrition makes to health. Nutrition monitoring activities in the United States date back to 1896. However, a formal national nutrition monitoring system did not occur until the late 1970s. The NNMRRP consists of five measurement components: nutrition and related health measurements; food and nutrient consumption data; knowledge, attitudes and behavior assessments; food composition and nutrient data bases; and food supply determinations. In addition to two cornerstone surveys -- the DHHS' National Health and Nutrition Examination Surveys and the USDA's Nationwide Food Consumption Surveys -- there are approximately 40 surveys and surveillance systems that gather and report data in the five component areas. (U.S. Department of Agriculture and U.S. Department of Health and Human Services, 1991)

Nutrition monitoring is vital to policymaking and research. Monitoring provides information and a data base for public policy decisions related to nutrition education; public health nutrition programs; food assistance programs; Federally supported food service programs; the regulation of fortification, safety, and labeling of the food supply; and food production and marketing. The NNMRRP also provides a data base to help establish research priorities.

The Federal government has published two comprehensive scientific reports on the nutritional status of the United States population. The reports draw upon data from the nutrition monitoring program to assess the nutritional status of the population. (Department of Health and Human Services and U.S. Department of Agriculture, 1986, Life Science Research Office, 1989)

Federal efforts in nutrition monitoring have focused on describing the overall population and age, sex, race and ethnic

subgroups. States, local governments and non-governmental organizations monitor certain aspects of nutrition, especially food insufficiency, at other levels. For example, the Community Childhood Hunger Identification Project of the Food Research and Action Center (an NGO), using grant funding from a number of private foundations, has conducted studies in a number of communities across the country attempting to measure the prevalence of food insecurity among low-income households with children under 12 years of age. (Wehler, 1991) The Association of State and Territorial Public Health Nutrition Directors monitors the availability and funding of personnel for providing nutrition services.

5. Agricultural and Nutrition Research

Human nutrition research encompasses studies in the biomedical and behavioral sciences, food sciences, nutrition monitoring and surveillance, nutrition education, and studies of the impact of nutrition intervention programs and socioeconomic factors. By this definition, approximately 4000 individual research and training projects with a human nutrition component are supported by the federal government. Federal funding for research and evaluation on agriculture and nutrition is channeled primarily through USDA and DHHS. *Appendix III-1* summarizes the types of research activities sponsored by the Federal government. Nutrition research is also supported by state governments, private industry (food and drug manufacturers), academic institutions, and private nonprofit foundations. (Federal expenditures for research are shown in Table III-2 below.)

The bulk of federally-funded nutrition research occurs through the National Institutes of Health (NIH). Seventeen individual institutions and centers within NIH provide grants to investigators at various academic institutions for support of peer-reviewed, investigator-initiated projects. NIH also supports an intramural research program.

The Agricultural Research Service (ARS) is the principal intramural research agency of USDA. Its research in human nutrition is conducted largely at five separate Human Nutrition Research Centers and at Regional Research Centers, all of which are coordinated through the National Program Staff. Each Center has a different research thrust and provides its unique contribution in solving high priority national nutrition problems.

The Cooperative State Research Service (CSRS) serves as an interface and coordinating mechanism between the U.S. Government research organizations, the 59 designated States and territorial agricultural experiment stations, and certain specially funded colleges and institutes. Funds are distributed on a formula basis, but projects must be approved by CSRS for funding. The

experiment stations recommend areas for national research priorities in agriculture and nutrition.

Other agencies within USDA and DHHS also conduct nutrition-related research. The Human Nutrition Information Service (HNIS), part of the U.S. Department of Agriculture, conducts applied research in food and nutrition, in such areas as food purchasing and consumption, nutrient composition, and educational methods for implementing the Dietary Guidelines for Americans. Within DHHS, the Alcohol, Drug Abuse, and Mental Health Administration; the Centers for Disease Control; the Food and Drug Administration; and the Health Resources and Services Administration all support nutrition research related to their specific mandates.

Finally, other federal agencies also play an important role. For example, the U.S. Army Research Institute of Environmental Medicine (USAARIEM) is responsible for conducting human nutrition research and nutritional evaluation for the Department of Defense (DoD). Military nutrition research focuses on developing nutrient requirements and dietary strategies to optimize performance. (Committee on Military Nutrition Research)

Federal research and information are used to formulate policies for food assistance and other nutrition intervention programs; regulatory activities, such as food labeling and food safety; food formulation, production and marketing; the National Nutrition Monitoring and Related Research Program; and the development of food and nutrition education and information programs.

B. Effects of Sectoral and Economic Policies on Nutrition

Food production and consumption are primarily the result of market forces. However, certain Federal policies do have direct and indirect impacts on food supply, demand, and prices. In addition the structure and activities of the food industry also play a significant role in affecting diets.

Agricultural Stabilization Programs. Farm price support programs have been used to stabilize and enhance the price of supported commodities. The Conservation Reserve Program (CRP), a conservation-oriented cropland retirement program, retires a sizable portion of cropland from production, reduces total crop supply, and increases commodity prices. Other agricultural programs such as acreage reduction programs and paid land diversion also bid up food prices by reducing cropland acres.

The effect of commodity price increases on manufactured food products varies by product. In addition, there can be a significant lag between commodity price increases and price increases for processed food products.

Environmental Policy. Growing environmental and health concerns have resulted in policies which encourage/require a reduction in the quantity of chemicals used in agricultural production. The impacts of such policies will diminish over time as new technology is developed to boost agricultural productivity.

Environmental initiatives can, however, also have a positive effect on agricultural production. Ambient pollution concentration in important agricultural production areas has been sufficiently high to reduce crop yields. The establishment of Secondary National Ambient Air Quality Standards as mandated by the Clean Air Act and its amendments will reduce damages to agricultural productivity from ozone and other air pollutants.

Technological Developments. Technological developments in agricultural production and food processing impact both nutrient supply and demand. Technologies that increase plant yield and animal growth or lower production cost can translate into greater food supplies at a lower cost. Quality changes (for example, seedless grapes) or lower cost alternatives (such as simulated seafood products, e.g., surimi based seafoods) can increase consumption of certain foods.

Governmental research and development policies affect food production and consumption by influencing technological developments in agriculture and food production. The U.S. government has a long history of conducting basic research and sponsoring similar research at universities.

Demand Enhancement Programs. Generic advertising programs implemented under the auspices of the Federal or State Governments are used to enhance demand for a product group as opposed to a single brand. Potatoes, eggs, wheat, beef, pork, and dairy products are examples of commodities with national promotion programs. However, nutrient consumption is affected only to the extent that promotion programs are successful in altering the mix of foods purchased by consumers.

Food Quality and Safety. These rules can affect the supply of foods by removing products that fail to meet Government-established standards (for example, food grades and marketing orders, standards of identity, approval of food additives and ingredients). They may also influence demand by increasing consumer confidence in the product.

Other Economic Policies. A range of other governmental policies affect food production and consumption in some manner. For example, income and welfare policies increase disposable income and food spending. International trade policy can significantly affect food prices. Tariffs or other import restriction limits cause increased prices and limit supply. International trade agreements also have the potential to influence nutrition through

international harmonization of food safety and quality standards. Antitrust laws are designed to promote fair and effective competition in all industries, including food production and distribution.

Role of Food Industry in Affecting Diet:

Technological developments have allowed the U.S. food industry to respond to consumers' changing preferences, such as the desire for greater convenience and healthfulness. For example, new technologies have been developed to produce fat substitutes, and this has in turn generated a whole new set of product lines. Reduction in fat content of foods of animal origin has been achieved through applied genetics and altered feeding practices of livestock. Development of fat replacers for processed foods may also contribute to reduction of the fat content in the diet.

Such efforts have had a significant impact on dietary patterns. The Calorie Control Council reports that 2 out of 3 adult Americans consume "light" products an average of nearly 4 times each week.(Prepared Foods, 1991) Approximately 10% of the new food products introduced in 1990 claimed to be low-fat or nonfat products. Among the new dairy products, 41% were low- or nonfat. And 31% of new products in the category of processed and fresh meat, poultry, seafood, and eggs were low- or nonfat products. (Morrison and Putnam, 1991)

Lower-fat products are not confined to supermarket shelves. Restaurants, fast-food establishments, and school cafeterias are also increasingly offering lower-fat fare.

The food industry also has a long history of nutrition education activities directed toward the whole population or particular segments which may be at greater nutritional risk. Many food companies maintain a staff of nutrition professionals who prepare and disseminate educational materials about nutrition, answer consumer inquiries about the nutritional qualities of their products, and prepare nutrition labeling.

C. Human, Technical and Financial Resources Directed Towards Preventing Nutritional Problems and Improving Nutritional Status.

1. National and Sector Allocations and Institutional Arrangements and Capacity

The nutrition activities of the U.S. government cut across a number of departments and agencies, especially within the Departments of Agriculture and Health and Human Services for the civilian populations, and Defense for military populations. For this reason, coordination is required to insure that research and programmatic information are adequately exchanged, data shared,

and unified interventions and messages developed. Each of these Departments has a formal mechanism for nutrition coordination. There are also several interagency organizations which coordinate nutrition efforts, including:

Interagency Board for Nutrition Monitoring and Related Research (IBNMRR). The IBNMRR has a mandate to assist in the implementation of the Nutrition Monitoring Ten-Year Program and Plan (discussed in Section III.A.4). As such it serves as the Federal focus for the coordination, management, and direction of Federal nutrition monitoring activities. Three subcommittees address the priority areas of survey comparability, information dissemination and exchange, and food composition data. The Board is co-chaired by the Assistant Secretary for Health, DHHS, and the Assistant Secretary for Food and Consumer Services, USDA. Membership comprises representatives from a wide range of government agencies with responsibility for conducting or supporting nutrition research.

Interagency Committee on Human Nutrition Research (ICHNR). The ICHNR was established in July 1983 to coordinate and increase the overall effectiveness and productivity of Federally supported and Federally conducted research in human nutrition. The ICHNR manages the Human Nutrition Research Information Management System, sponsors biennial conferences on Federally Supported Human Nutrition Research Centers and Units, and prepares periodic reports. The Committee is co-chaired by the Assistant Secretary for Health, DHHS, and the Assistant Secretary for Science and Education, USDA. Like the IBNMRR, the ICHNR is comprised of representatives from a wide range of Federal agencies.

In addition to these formal government-wide mechanisms, there are a host of informal or more specific formal mechanisms within and across agencies of the Federal government, as well as with State agencies, and nongovernmental organizations.

Financial Resources

Governmental:

Given the complexity of nutrition within the Federal system, it is not possible to identify the total budgetary expenditure for nutrition. Estimates can be given, however, for the major nutrition foci. Because of overlap in some activities, e.g., food safety and nutrition includes some funding for research, the expenditure figures are not additive.

Education. Within USDA, an estimated $181 million was expended on nutrition education and information in 1991. (U.S. Department of Agriculture, 1991) Within DHHS, the National Institutes of Health expended approximately $10 million on nutrition-related

education for the public and for professionals in 1990. An additional $5 million was spent on nutrition education components of DHHS health education and preventive health programs.

Food Assistance Programs and Services. In 1991 USDA had outlays of $28.4 billion for food assistance. For the Congregate and Home-Delivered Meals for Older Persons DHHS expended $463 million and expended $72 million in its Head Start Nutrition Program. Expenditures for food assistance programs are shown in *Table III-1*.

Food Safety and Nutrition. DHHS through FDA in 1991 expended approximately $184 million on food safety and applied nutrition. USDA expended $504 million for food safety and inspection in 1991.

Nutrition Monitoring. The Federal government expended approximately $134 million on nutrition monitoring and related research in 1991.

Research. Federal expenditures and number of projects in human nutrition research, manpower development, training and education by Federal agencies are maintained as part of the Human Nutrition Research and Information Management System and reported to Congress annually. Expenditures for 1989 totaled $389 million; further detail is shown in *Table III-2*.

2. Private Sector

Within the private sector in the United States there are several groups that are actively working to address nutritional problems and improve nutritional status. Most active in recent years have been public health organizations, the food industry and advocacy groups. Each of these has an important role to play in educating the public and encouraging them to adopt healthful eating patterns.

Private sector public health-related organizations, both professional, such as the American Dietetic Association and the Society for Nutrition Education, and lay organizations such as the American Heart Association, offer credibility based on expertise. They also generally offer large groups of committed individuals to implement nutrition communication activities, whether one-on-one or through group contacts. Financial resources may be limited for campaigns of truly national scope.

TABLE III-1 EXPENDITURES FOR FOOD ASSISTANCE

Program	FY1991 Expenditures ($s in billions)
Food Stamps	18.8
Child Nutrition Programs	5.9
Supplemental Food Program (includes WIC and Commodity Supplemental Food Program)	2.4
Grants to Puerto Rico and Northern Marianas	1.0
Congregate and Home-Delivered Meals for Elderly Persons	.5
Food Donation Programs	.2
Head Start Nutrition Program	.1

TABLE III-2. FY 1989 EXPENDITURES AND NUMBER OF PROJECTS IN HUMAN NUTRITION RESEARCH, MANPOWER DEVELOPMENT, TRAINING, AND EDUCATION BY FEDERAL AGENCIES

	Expenditures ($ in thousands)	% of Total Expenditures	Number of Projects	% of Total Projects
Department of Health and Human Services (HHS):	312,971+	74	2,417	64
U.S. Department of Agriculture	65,433	17	936	25
Agency for International Development	6,492	2	22	<1
Department of Veterans Affrs.	3,104*	1	239	6
Department of Commerce	988	<1	3	<1
Department of Defense	421	<1	3	<1
Total Federal Expenditures	389,410**	100	3,760**	100

+ Final actual obligation; previously reported figures may differ

* Estimate

**Total imprecise due to rounding

SOURCE: Interagency Committee on Nutrition Research

The food industry possesses expertise in both health and food science, and financial resources which have been tapped to mount successful nutrition education campaigns. For example, the American Dietetic Association has recently launched a nutrition campaign aimed at adolescents. Their co-sponsor is the International Food Information Council, a non-profit education organization sponsored by major food processors. The American Medical Association is conducting a cholesterol education campaign, which is also sponsored by major food processors.

3. NGO's

National, state and local non-government organizations spend an estimated $1 billion annually to prevent nutrition problems and improve the nutritional status of the U.S. population. Most of these funds, probably 95 percent, are spent on direct food assistance to help poor families and individuals, nearly all by locally based NGO groups, and consists of food provided locally or through national and regional organizations that collect and distribute food. Second Harvest, one of the largest national organizations, collects about $100 million in donated foods each year, which is distributed through a network of state outlets that in turn supplies food stocks to local food pantries and other outlets. (Leonard, 1991)

Most local community groups are operated by volunteer staff and thus represent an in-kind contribution of perhaps another $1 billion in labor costs. NGO groups which are focused primarily on advocacy efforts in food and nutrition programs probably spend $40 to 50 million annually, mostly for salary, travel, and related expenses for administrative support. In addition to paid staff, many of these organizations also utilize extensive volunteer staff, particularly at state and local levels. Converted to in-kind contributions, volunteer labor represents perhaps an additional $40 million per year in labor costs. (Leonard, 1991)

REFERENCES FOR SECTION III

Committee on Military Nutrition Research, Food and Nutrition Board, Institute of Medicine, Military Nutrition Initiatives. OIM Report-91-05, February, 1991.

Devaney, B., L. Bilheimer and J. Schore, 1990. The Savings in Medicaid Costs for Newborns and Their Mothers from Prenatal Participation in the WIC Program. Prepared by Mathematica Policy Research for the U.S.Department of Agriculture, Food and Nutrition Service, 1990, and Addendum, October 1991

Fraker, Thomas M. October 1990. The Effects of Food Stamps on Food Consumption: A Review of the Literature. Alexandria, VA, U.S. Department of Agriculture, Food and Nutrition Service.

Germanis, P and R. Bavier, December 1986. Up From Dependency: A New National Public Assistance Strategy, Supplement 1: The National Public Assistance System, Volume 1: An Overview of the Current System. Washington, D.C., Executive Office of the President.

Hanes, S., J. Vermeersch, and S. Gale, 1984. "The National Evaluation of School Nutrition Programs: Program Impact on Dietary Intake". American Journal of Clinical Nutrition 40:2 (Suppl), August 1984 Supplement pp.390-413.

Leonard, Rodney, November, 1991. Personal communication to Jay Hirschman.

Life Sciences Research Office, Federation of American Societies for Experimental Biology, 1989. Nutrition Monitoring in the United States--An Update Report on Nutrition Monitoring. Prepared for the U.S. Department of Agriculture and the U.S. Department of Health and Human Services. DHHS Publication No. (PHS) 89-1255. Public Health Service. Washington DC: U.S. Government Printing Office.

Morrison, Rosanna M., and J. Putnam, 1991. "Lower Fat Foods: New Technology, Increased Demand." Agricultural Outlook, October, 1991.

Prepared Foods. 160 (10):61, September, 1991.

Rush, D., D.G. Horvitz, and W.B. Seaver, 1986. The National WIC Evaluation. Volume I: Summary. Alexandria, VA, U. S. Department of Agriculture, Food and Nutrition Service.

U.S. Department of Agriculture, 1991. 1990 Report on USDA Human Nutrition Research and Education Activities: Report to Congress. July 1991

U.S.Department of Agriculture and U.S. Department of Health and Human Services, 1991. Draft Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program. Notice. Washington, D.C., Federal Register, Vol 56, No.209 pp. 55716-55767

U.S.Department of Agriculture and U.S. Department of Health and Human Services, 1986. Nutrition Monitoring in the United States -- A Progress Report from the Nutrition Monitoring Evaluation Committee. DHHS Pub. No. (PHS) 86-1255. Public Health Service. Washington, U.S. Government Printing Office.

U.S. Department of Health and Human Services, 1990. Prevention 89/90: Federal Programs and Progress, Washington, D.C., U.S. Government Printing Office.

Wehler, C.A, and the Food Research and Action Center, March 1991. Community Childhood Hunger Identification Project: A Survey of Childhood Hunger in the United States. Washington, D.C., Food Research and Action Center.

Wellisch, J.B., S.D. Hanes, L.A. Jordan, K.M. Mauer, and J.A. Vermeersch, April, 1983. The National Evaluation of School Nutrition Programs: Final Report. Prepared by Systems Development Corporation for the U.S. Department of Agriculture, Food and Nutrition Service.

IV. RECOMMENDATIONS FOR FUTURE ACTIONS

A. Goals or Reasonable Aims

National policy objectives for nutrition are embodied in the Dietary Guidelines for Americans, shown in *Table IV-1*. (U.S. Department of Health and Human Services, and U.S. Department of Agriculture, 1990)

Table IV-1. Dietary Guidelines for Americans
▸ Eat a variety of foods
▸ Maintain healthy weight
▸ Choose a diet low in fat, saturated fat, and cholesterol
▸ Choose a diet with plenty of vegetables, fruits, and grain products
▸ Use sugars only in moderation
▸ Use salt and sodium only in moderation
▸ If you drink alcoholic beverages, do so in moderation

Nutrition is also a key focus of Healthy People 2000, the health objectives for the United States for the year 2000.(U.S. Department of Health and Human Services, 1990) The nutrition objectives relate to obesity, undernutrition and overnutrition, diet and disease relationships, the application of the Dietary Guidelines for Americans to food service operations, dietary counseling, food labeling, nutrition education in schools and to students in the health care professions, maternal and infant health and feeding practices (including breastfeeding promotion), and feeding of older persons.

The 21 specific national nutrition objectives contained in Healthy People 2000 are included in *Table IV-2*. Nutrition in the broad sense discussed in this paper--from water supply, food production and food processing through nutrition's health effects--is also addressed by other national health objectives. These are listed in *Appendix IV-1*.

2. Nutrition

Health Status Objectives

2.1* Reduce coronary heart disease deaths to no more than 100 per 100,000 people. (Age-adjusted baseline: 135 per 100,000 in 1987)

		Special Population Target	
	Coronary Deaths (per 100,000)	*1987 Baseline*	*2000 Target*
2.1a	Blacks	163	115

2.2* Reverse the rise in cancer deaths to achieve a rate of no more than 130 per 100,000 people. (Age-adjusted baseline: 133 per 100,000 in 1987)

Note: In its publications, the National Cancer Institute age adjusts cancer death rates to the 1970 U.S. population. Using the 1970 standard, the equivalent baseline and target values for this objective would be 171 and 175 per 100,000, respectively.

2.3* Reduce overweight to a prevalence of no more than 20 percent among people aged 20 and older and no more than 15 percent among adolescents aged 12 through 19. (Baseline: 26 percent for people aged 20 through 74 in 1976-80, 24 percent for men and 27 percent for women; 15 percent for adolescents aged 12 through 19 in 1976-80)

		Special Population Targets	
	Overweight Prevolence	*1976-80 Baseline*†	*2000 Target*
2.3a	Low-income women aged 20 and older	37%	25%
2.3b	Black women aged 20 and older	44%	30%
2.3c	Hispanic women aged 20 and older		25%
	Mexican-American women	39%‡	
	Cuban women	34%‡	
	Puerto Rican women	37%‡	
2.3d	American Indians/Alaska Natives	29-75%§	30%
2.3e	People with disabilities	36%*	25%
2.3f	Women with high blood pressure	50%	41%
2.3g	Men with high blood pressure	39%	35%

†*Baseline for people aged 20-74* ‡*1982-84 baseline for Hispanics aged 20-74*

§*1984-88 estimates for different tribes* **1985 baseline for people aged 20-74 who report any limitation in activity due to chronic conditions*

Note: For people aged 20 and older, overweight is defined as body mass index (BMI) equal to or greater than 27.8 for men and 27.3 for women. For adolescents, overweight is defined as BMI equal to or greater than 23.0 for males aged 12 through 14, 24.3 for males aged 15 through 17, 25.8 for males aged 18 through 19, 23.4 for females aged 12 through 14, 24.8 for females aged 15 through 17, and 25.7 for females aged 18 through 19. The values for adolescents are the age- and gender-specific 85th percentile values of the 1976-80 National Health and Nutrition Examination Survey (NHANES II), corrected for sample variation. BMI is calculated by dividing weight in kilograms by the square of height in meters. The cut points used to define overweight approximate the 120 percent of desirable body weight definition used in the 1990 objectives.

2.4 Reduce growth retardation among low-income children aged 5 and younger to less than 10 percent. (Baseline: Up to 16 percent among low-income children in 1988, depending on age and race/ethnicity)

		Special Population Targets	
	Prevalence of Short Stature	*1988 Baseline*	*2000 Target*
2.4a	Low-income black children <age 1	15%	10%
2.4b	Low-income Hispanic children <age 1	13%	10%
2.4c	Low-income Hispanic children aged 1	16%	10%
2.4d	Low-income Asian/Pacific Islander children aged 1	14%	10%
2.4e	Low-income Asian/Pacific Islander children aged 2-4	16%	10%

Note: Growth retardation is defined as height-for-age below the fifth percentile of children in the National Center for Health Statistics' reference population.

Risk Reduction Objectives

2.5* Reduce dietary fat intake to an average of 30 percent of calories or less and average saturated fat intake to less than 10 percent of calories among people aged 2 and older. (Baseline: 36 percent of calories from total fat and 13 percent from saturated fat for people aged 20 through 74 in 1976-80; 36 percent and 13 percent for women aged 19 through 50 in 1985)

2.6* Increase complex carbohydrate and fiber-containing foods in the diets of adults to 5 or more daily servings for vegetables (including legumes) and fruits, and to 6 or more daily servings for grain products. (Baseline: 2½ servings of vegetables and fruits and 3 servings of grain products for women aged 19 through 50 in 1985)

2.7* Increase to at least 50 percent the proportion of overweight people aged 12 and older who have adopted sound dietary practices combined with regular physical activity to attain an appropriate body weight. (Baseline: 30 percent of overweight women and 25 percent of overweight men for people aged 18 and older in 1985)

2.8 Increase calcium intake so at least 50 percent of youth aged 12 through 24 and 50 percent of pregnant and lactating women consume 3 or more servings daily of foods rich in calcium, and at least 50 percent of people aged 25 and older consume 2 or more servings daily. (Baseline: 7 percent of women and 14 percent of men aged 19 though 2: and 24 percent of pregnant and lactating women consumed 3 or more servings, and 15 percent of women and 23 percent of men aged 25 through 50 consumed 2 or more servings in 1985-86)

Note: The number of servings of foods rich in calcium is based on milk and milk products. A serving is considered to be 1 cup of skim milk or its equivalent in calcium (302 mg). The number of servings in this objective will generally provide approximately three-fourths of the 1989 Recommended Dietary Allowance (RDA) of calcium. The RDA is 1200 mg for people aged 12 through 24, 800 mg for people aged 25 and older, and 1200 mg for pregnant and lactating women.

2.9 Decrease salt and sodium intake so at least 65 percent of home meal preparers prepare foods without adding salt, at least 80 percent of people avoid using salt at the table, and at least 40 percent of adults regularly purchase foods modified or lower in sodium. (Baseline: 54 percent of women aged 19 through 50 who served as the main meal preparer did not use salt in food preparation, and 68 percent of women aged 19 through 50 did not use salt at the table in 1985; 20 percent of all people aged 18 and older regularly purchased foods with reduced salt and sodium content in 1988)

2.10 Reduce iron deficiency to less than 3 percent among children aged 1 through 4 and among women of childbearing age. (Baseline: 9 percent for children aged 1 through 2, 4 percent for children aged 3 through 4, and 5 percent for women aged 20 through 44 in 1976-80)

Special Population Targets

	Iron Deficiency Prevalence	*1976-80 Baseline*	*2000 Target*
2.10a	Low-income children aged 1-2	21%	10%
2.10b	Low-income children aged 3–4	10%	5%
2.10c	Low-income women of childbearing age	8%†	4%
	Anemia Prevalence	*1983-85 Baseline*	*2000 Target*
2.10d	Alaska Native children aged 1-5	22-28%	10%
2.10e	Black, low-income pregnant women (third trimester)	41%‡	20%

†*Baseline for women aged 20–44* ‡*1988 baseline for women aged 15–44*

Note: Iron deficiency is defined as having abnormal results for 2 or more of the following tests: mean corpuscular volume, erythrocyte protoporphyrin, and transferrin saturation. Anemia is used as an index of iron deficiency. Anemia among Alaska Native children was defined as hemoglobin <11 gm/dL or hematocrit <34 percent. For pregnant women in the third trimester, anemia was defined according to CDC criteria. The above prevalences of iron deficiency and anemia may be due to inadequate dietary iron intakes or to inflammatory conditions and infections. For anemia, genetics may also be a factor.

2.11* Increase to at least 75 percent the proportion of mothers who breastfeed their babies in the early postpartum period and to at least 50 percent the proportion who continue breastfeeding until their babies are 5 to 6 months old. (Baseline: 54 percent at discharge from birth site and 21 percent at 5 to 6 months in 1988)

Special Population Targets

	Mothers Breastfeeding Their Babies:	*1988 Baseline*	*2000 Target*
	During Early Postpartum Period—		
2.11a	Low-income mothers	32%	75%
2.11b	Black mothers	25%	75%
2.11c	Hispanic mothers	51%	75%
2.11d	American Indian/Alaska Native mothers	47%	75%
	At Age 5-6 Months—		
2.11a	Low-income mothers	9%	50%
2.11b	Black mothers	8%	50%
2.11c	Hispanic mothers	16%	50%
2.11d	American Indian/Alaska Native mothers	28%	50%

2.12* Increase to at least 75 percent the proportion of parents and caregivers who use feeding practices that prevent baby bottle tooth decay. (Baseline data available in 1991)

Special Population Targets

	Appropriate Feeding Practices	*Baseline*	*2000 Target*
2.12a	Parents and caregivers with less than high school education	—	65%
2.12b	American Indian/Alaska Native parents and caregivers	—	65%

2.13 Increase to at least 85 percent the proportion of people aged 18 and older who use food labels to make nutritious food selections. (Baseline: 74 percent used labels to make food selections in 1988)

Services and Protection Objectives

2.14 Achieve useful and informative nutrition labeling for virtually all processed foods and at least 40 percent of fresh meats, poultry, fish, fruits, vegetables, baked goods, and ready-to-eat carry-away foods. (Baseline: 60 percent of sales of processed foods regulated by FDA had nutrition labeling in 1988; baseline data on fresh and carry-away foods unavailable)

2.15 Increase to at least 5,000 brand items the availability of processed food products that are reduced in fat and saturated fat. (Baseline: 2,500 items reduced in fat in 1986)

Note: A brand item is defined as a particular flavor and/or size of a specific brand and is typically the consumer unit of purchase.

2.16 Increase to at least 90 percent the proportion of restaurants and institutional food service operations that offer identifiable low-fat, low-calorie food choices, consistent with the *Dietary Guidelines for Americans*. (Baseline: About 70 percent of fast food and family restaurant chains with 350 or more units had at least one low-fat, low-calorie item on their menu in 1989)

2.17 Increase to at least 90 percent the proportion of school lunch and breakfast services and child care food services with menus that are consistent with the nutrition principles in the *Dietary Guidelines for Americans*. (Baseline data available in 1993)

2.18 Increase to at least 80 percent the receipt of home food services by people aged 65 and older who have difficulty in preparing their own meals or are otherwise in need of home-delivered meals. (Baseline data available in 1991)

2.19 Increase to at least 75 percent the proportion of the Nation's schools that provide nutrition education from preschool through 12th grade, preferably as part of quality school health education. (Baseline data available in 1991)

2.20 Increase to at least 50 percent the proportion of worksites with 50 or more employees that offer nutrition education and/or weight management programs for employees. (Baseline: 17 percent offered nutrition education activities and 15 percent offered weight control activities in 1985)

2.21 Increase to at least 75 percent the proportion of primary care providers who provide nutrition assessment and counseling and/or referral to qualified nutritionists or dietitians. (Baseline: Physicians provided diet counseling for an estimated 40 to 50 percent of patients in 1988)

In the United States, legislation specifies nutrition objectives for some Federal programs. For example:

- Public Law (P.L.) 101-147, the Child Nutrition and WIC Reauthorization Act of 1989, requires publication of dietary guidance for child nutrition programs, nutrition education activities in institutions offering the Summer Food Service Program, and training of school food service personnel in the principles of food service management.

- P.L. 101-147 requires increased coordination between the WIC program and certain other government programs: the Food Stamp Program (FSP), Aid for Families with Dependent Children (AFDC), and the Medicaid program. This law also requires increased emphasis on breastfeeding promotion.

- P.L. 101-445, the National Nutrition Monitoring and Related Research Act, requires a multifaceted approach to improving the national nutrition monitoring system.

- P.L. 101-624, the Food, Agriculture, Conservation and Trade Act of 1990, calls for improved access to the FSP through simplification of the application process, and improved coordination with general assistance and Supplemental Security Income.

- Passage of the Nutrition Labeling and Education Act (P.L. 101-535) provides impetus to the government effort to improve the content and format of food labels and related educational efforts.

Crosscutting aspects of U.S. nutrition goals and aims include: (1) improving health prospects for all Americans; (2) empowering families and individuals to make appropriate nutritional decisions; (3) promoting self-sufficiency by helping families and individuals become part of the economic mainstream; (4) encouraging greater coordination of efforts in which nutrition objectives are related; for example, the objectives that are related to reducing overweight[1] and decreasing dietary fat intake[2]; and (5) development and encouragement of special efforts to address nutrition objectives that relate to hard-to-reach populations and individuals in greatest need.

---

[1] Objective 2.3: Reduce overweight to a prevalence of no more than 20 percent of people (a 23 percent decrease).

[2] Objective 2.5: Reduce dietary fat intake to an average of 30 percent of calories (a 17 percent decrease).

B. Action and Strategies Needed for Implementation

Federal, State, and local governments, voluntary agencies, the public, the food industry, and scientists and health professionals must all work together to improve nutrition in the United States. Important efforts in this direction are already underway. For example:

- Healthy People 2000: National Health Promotion and Disease Prevention Objectives, released in 1990, provides the framework and directs national attention to realistic opportunities to achieve a healthier Nation by the year 2000.

- Current efforts by the private sector and State and Federal governments to implement the objectives are described in several reports in preparation. Healthy People 2000: Consortium Action describes the activities of more than 300 national organizations that comprise the Healthy People 2000 Consortium and begins the process of documenting activities in the private and nonprofit sectors. Healthy People 2000: State Action describes the activities occurring in the States, with particular attention to efforts to include citizens and groups in health promotion. Healthy People 2000: Public Health Service Action focuses specifically on the major objectives-related activities of the U.S. Public Health Service during 1991. State and local efforts are described in Healthy Communities 2000 Model Standards.

- The Maternal and Child Health Interorganizational Nutrition Group (MCHING) recently published strategies for action on 28 recommendations for improving nutrition among women of reproductive age, infants, children and adolescents in the U.S. (Sharbaugh, et al., 1991)

- In 1989, the U.S. Departments of Agriculture and Health and Human Services jointly released Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring. (Life Sciences Research Office, 1989) This report reviews the dietary and nutritional status of the U.S. population, as well as the factors that determine status, based on the data and information available through the Departments' nutrition monitoring activities. It includes recommendations for improvement of national nutrition monitoring. (See *Appendix IV-2*)

- The Life Sciences Research Office of the Federation of American Societies for Experimental Biology included recommendations for research in the report on core indicators of nutritional state for difficult-to-sample populations. (Life Sciences Research Offices, 1990)

- In follow-up to the Surgeon General's Report on Nutrition and Health (U.S. Department of Health and Human Services, 1988) and the National Academy of Sciences (NAS) report Diet and Health: Implications for Reducing Chronic Disease Risk (National Academy of Sciences, 1989), NAS recently published Improving America's Diet and Health: From Recommendations to Action. (National Academy of Sciences, 1991) This report details implementation strategies and action steps which could be taken by the public sector, the private sector, and health-care professionals; strategies and actions for education of the public; and directions for research. These recommendations are summarized in *Appendix IV-3*.

- In 1985, the National Heart, Lung, and Blood Institute of the National Institutes of Health launched the National Cholesterol Education Program, a public/private effort that aims to raise awareness and understanding of health professionals and the public about high blood cholesterol as a risk factor for coronary heart disease and the benefits of lowering blood cholesterol levels as a means of preventing coronary heart disease.

- In 1991 another public/private effort, the *5 a Day -- For Better Health* program was launched by the Produce for Better Health Foundation, with support from the National Cancer Institute of the National Institutes of Health. The goal of this nationwide program is to increase fruit and vegetable consumption of Americans to five servings a day by the year 2000.

- In 1993, the U.S. Department of Agriculture will feature enhanced nutrition education efforts. This Nutrition Education Initiative seeks to change the behavior and promote the nutritional well-being of Americans with a particular emphasis on educating and informing 1) children of the importance of good eating habits, and 2)limited-resource adults on ways to improve their diets, spend their funds wisely, and handle food safely.

- The Department of Agriculture and the Department of Health and Human Services have recently proposed Draft Nutrition Guidance for Child Nutrition Programs. This publication give nutrition advice to those responsible for preparing meals for children under the Child Nutrition programs. This guidance is one element in USDA's effort to reduce the fat content of school lunches to 30% of total calories.

- The Department of Agriculture is developing an expanded breastfeeding package for women in the WIC program. The package will provide additional food for women so that their ability to breastfeed will be enhanced.

- In 1992, the DHHS Administration on Aging funded a National Eldercare Institute on Nutrition, a public/private partnership including government, NGOs and private industry. The Institute will serve as the national focal point to enhance the nation's capacity to meet the nutritional needs of at-risk older persons living in community settings.

Numerous other public-private organizations are also working towards achieving health and nutrition objectives. For example, the USDA-sponsored Breastfeeding Consortium, a group of public and private sector health professionals, engages in a range of research and promotional activities designed to encourage breastfeeding.

Strategies and Actions

The following sections discuss strategies and actions in a variety of areas described in the previous chapters: promoting healthy lifestyles; enhancing "caring capacity" within the household and within society; improving household food security; developing food safety initiatives; assessing, analyzing and monitoring nutrition situations; and research priorities.

1. Promoting Healthy Lifestyles (food and nutrition education, public awareness, providing foods needed for a balanced diet)

The Dietary Guidelines for Americans and many of the objectives in Healthy People 2000 address promoting healthy lifestyles through food and nutrition. Examples of strategies and action steps include:

1.1 Empowering families and individuals to make appropriate nutritional decisions through improving public comprehension of dietary guidelines. This includes developing and publicizing graphic symbols representing select messages from the Dietary Guidelines for Americans which are appropriate for the general public, including children and low-income adults. Increase public awareness by expanding nutrition educational outreach through the media--television, radio, newspapers, and magazines--with information on how to apply dietary guidelines principles to choose a healthful diet in everyday life.

1.2 Update nutrition education materials, meal plans and recommended recipes to reflect the 1990 revision of the Dietary Guidelines for Americans, and disseminate these updated materials.

1.3 Issue final regulations which improve the nutrition labeling of foods, and educate the public and nutrition education providers on appropriate use of the new

labels. (Proposed regulations were published by DHHS and USDA on November 27, 1991 for public comment by February 25, 1992.)

1.4 Increase the availability of and access to current nutrition information and resources by nutrition educators through toll-free telephone consultation services.

1.5 Complete development and dissemination of nutrition guidance for child nutrition programs, and train child nutrition program operators in the application of this guidance in routine program operation.

1.6 Increase the availability of and access to nutrition education curricula for use in child care settings.

1.7 Increasingly target nutrition information to high risk or hard to reach audiences, such as older adults, low literacy, and low income groups, and adolescents. Provide information with formats and techniques that motivate and improve comprehension and use of nutrition concepts.

1.8 Increase availability of and access to culturally appropriate nutrition education materials, and increase the knowledge and sensitivity of service providers about the need for, availability of and appropriate use of culturally appropriate nutrition education.

1.9 Increase the availability of and access to nutrition education for low-income pregnant, breastfeeding and postpartum women and families with preschool children.

1.10 Provide support for breastfeeding mothers as an integral component of food and nutrition programs, including the WIC program.

1.11 Continue to improve the availability of high-quality, nutritious, low-fat USDA commodity donations to schools and other food assistance programs.

1.12 Expand public-private partnerships to achieve nutrition goals through ongoing discussions and joint ventures.

2. Enhancing "Caring Capacity" within the Household and within Society

Constraints on time, resources, and information can limit parents' abilities to provide adequate nutrition for their children and other at-risk populations, such as the elderly. Children of single mothers and in families with both parents

working may be particularly at risk. Strategies to address these problem include:

2.1 Improve the access to and use of available food assistance and nutrition education programs by limited resource families.

2.2 Reduce the incidence of teen pregnancy by educating teens about the responsibilities and limitations brought on by early parenthood. Such public education campaigns are already underway; schools and community organizations have taken an active role in many areas.

2.3 Provide education/support for teen mothers by expanding school-based programs ranging from infant care and nutrition classes to on-site day care. Programs should emphasize allowing the mother to continue her education, proper nutrition habits, breastfeeding promotional activities, and the benefits of delaying additional childbearing. Federal programs which help mothers build parenting skills and/or economic self-sufficiency should also be expanded. For example, the WIC program provides participants with nutrition education and access to health services; and the 1988 Family Support Act requires the government to provide child care to welfare recipients who require it in order to work or recieve training.

2.4 Improve the quality and availability of child care. Though there are a range of views in the United States regarding the appropriate role of government, employers, service providers and family in providing child care, there is a consensus that child care issues must be addressed. For example, the Child Care and Development Block Grant Act of 1990 will provide $2.5 billion dollars in 1991-95 to help lower-income families pay for child care and for activities which expand the availability and quality of day care.

3. Improving Household Food Security (focusing on food availability and access)

As a nation, the ongoing Federal, State, local and non-governmental investment in food assistance is the best measure of a consensus that in this land of plenty, no person should have to go hungry. Having all but eliminated the type of hunger and undernutrition faced by some less developed nations, in addition to addressing the issues of overnutrition, we are challenged to build on this success, so that the American people are secure in knowing that all in our country have access to the food they need for good health. A recent review concluded:

> "Food insecurity may be widespread among groups of nutritional concern that are inadequately represented in national health surveys. The extent of food insecurity is unknown because the definition is still being refined and the techniques for measurement are still being developed." (Life Sciences Research Office, 1990)

Accordingly, recommended actions in this arena relate to improving the definition and measurement of food security, its causes, and its effects on health, performance, and the quality of life. Other recommendations focus on improving the administrative coordination and public use of the existing food, nutrition, health and welfare programs. Examples of strategies and action steps include:

3.1 Develop a standardized mechanism and instrument for defining and obtaining data on the prevalence of "food insufficiency" and "food security" in the United States and a methodology that can be used across the National Nutrition Monitoring System and State and local levels.[3]

3.2 Expand research on the relationship of food sufficiency and food security measures to other indicators of public policy relevance: nutritional status, health, economic well-being, performance, and the quality of life.

3.3 Improve nutrition education and information activities targeted towards selection and safe preparation of economical, nutritious food.

3.4 Improve access to food assistance through coordination with other government programs, expansion of the WIC Program to allow full participation by eligible pregnant women and infants, expansion of the School Breakfast Program, and improving access for low-income children to the Child and Adult Care Food Program.

3.5 Continue to improve services provided through effective use of new technologies, such as electronic benefits transfer.

---

[3]adapted from USDA/DHHS Draft Ten-year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program, item V-C-2.4.

4. Developing Food Safety Initiatives

An important public health accomplishment during the 20th century has been the development of Federal and State systems to provide nearly nationwide protection of consumers from dangers posed by unapproved food additives, unapproved uses of pesticides, and food contaminants. To carry out regulatory functions effectively in these areas requires maintenance of effective inspection and compliance systems, research on key scientific issues and analytical methods, and development and implementation of consumer-oriented education strategies to enable consumers to make wise food choices. Examples of strategies and action steps include:

4.1 Strengthen government infrastructures and institutional capacities to enhance food quality and safety

4.2 Develop human resources through training of personnel in food safety and food handling

4.3 Communicate to consumers proper relative risk perceptions; for example, by increasing the transparency of the decision-making process

4.4 Increase industry involvement in consumer education; for example, increase communication to consumers through the food label

4.5 Promote awareness of all consumers to the importance of food quality and safety to their health, by:

- a. Using mass media to disseminate information to target groups
- b. Integrating food safety into the primary health care delivery system
- c. Integrating food quality and safety and nutrition education into the school curricula
- d. Educating and training of primary health care workers and health professionals in food safety intervention methods

4.6 Further research is needed; for example, in the following areas:

- a. Behavioral and motivational research (barriers to change)
- b. Communication and education effectiveness research (especially hard-to-reach groups)

c. Low-cost monitoring and testing systems and practices

d. Epidemiology of chemical contaminations

e. Technologies to decrease microbiological contaminants, particularly for immuno-compromised individuals, such as the aged and very young.

e. Chronic health impacts of food quality and safety problems

f. Economic impacts of food quality and safety problems

g. Safety implications of new food products and new, faster means of preparation

h. Potential dangers posed by approved pesticides and natural toxins

5. Assessing, Analyzing and Monitoring Nutrition Situations

National strategy and action steps have been specified in the National Nutrition Monitoring and Related Research Act (NNMRRP) of 1990 (Public Law 101-445). Among other steps, this Act requires development and implementation of a 10-year plan for nutrition monitoring in the United States. Copies of the Act and of the draft 10-year plan, which was published for public comment on October 29, 1991, are included in *Appendix IV-4*. Action steps include:

5.1 Coordinate the planning, conduct and reporting of findings from Federal Nutrition surveys.

5.2 Establish a mechanism for independent review and evaluation of surveys in the NNMRRP.

5.3 Identify and prioritize population subgroups having high dietary or nutritional risk and develop and implement a plan for increased survey coverage.

5.4 Develop and implement a plan for adding components to the Survey Nutrient Data Base including nutrient components and non-nutrient food components.

5.5 Increase voluntary contribution of food composition information by the food industry.

5.6 Establish procedures for tracking changes to the food composition and nutrient data bases that will permit trend analysis of dietary intake data.

5.7 Develop and strengthen State and local capacity for continuous and coordinated nutrition monitoring data collection.

6. Research Priorities

Ongoing agricultural and nutrition research holds the potential to promote optimum human health and well-being through improved nutrition and a high quality food supply. Examples of strategies and actions include:

6.1 Improve understanding of the etiology, prevention and treatment of obesity.

6.2 Improve understanding of the role of specific dietary factors in the etiology chronic disease and in risk reduction for chronic disease.

6.3 Increase knowledge of the range of requirements and safe limits of energy and nutrient intakes of humans throughout the life cycle. Key areas include: needs of infants and of pregnant and lactating women; requirements for the elderly; and chronic disease risk.

6.4 Improve information on food composition by determining the composition of agricultural commodities and foods as eaten and establishing the bioavailability of their nutrients and other constituents important to health.

6.5 Improve methods of assessing nutritional status by developing rapid, reliable, and cost effective methods of identifying marginal nutritional status and food insufficiency. These methods need to be suitable for use under field conditions and are required for assessing effectiveness of feeding and education programs and for nutrition monitoring.

6.6 Identify high-risk groups and geographical areas with nutrition-related problems and food assistance programs. Develop criteria for interpreting selected nutrition indicators for population subgroups at high risk.

6.7 Devise strategies for food production systems that will enhance nutrition, and evaluate changes in agricultural policy which may affect the nutritional quality and healthfulness of the food supply. This includes improving the nutritional quality of animal products and plant foods.

6.8 Conduct research to identify the relationship of knowledge and attitude parameters to dietary behavior and nutrient intake.

6.9 Develop cost-effective methods of assessing the impact of nutrition intervention programs on various subgroups to improve the nutritional status of the population.

C. Financial and Human Resources/Constraints

Financial Resources

There is intense competition for resources to meet competing policy priorities at both the Federal and state level. The challenge for the 1990's is to remove barriers to progress and invest scarce resources in interventions which in the long term reduce costs to the government. Medical care costs to both the government and the public have been increasing at a faster rate than either inflation or GNP. As a prime factor in disease prevention, improved nutrition is a potentially cost-effective approach to moderating medical costs while improving the quality of life.

Most of the major Federal food assistance programs are funded on demand. As the demand for these programs increases, Federal funding increases to provide benefits to all certified individuals. These programs, with a combined Fiscal Year 1990 cost of over $28 billion, dwarf the government expenditures on all other aspects of domestic nutrition. A portion of the resources for achieving the goals described above may be obtained by integrating the strategies and actions into these and other ongoing efforts to promote nutrition in the United States.

Allocation of Public and Private Resources

Achievement of national nutrition goals and objectives depends on acceptance of shared responsibility among all levels of government, health and agriculture professionals, and interested members of the private sector. These responsibilities include:

1. A Federal government role to provide broad leadership for nutrition education, research, food assistance, food labeling, food safety, and nutrition monitoring.

2. A State and local government role to implement objectives comparable to the national objectives; set priorities according to regional and local needs and capabilities; and plan, coordinate, and implement the activities of State and local agencies and local private organizations.

3. A non-government strategy to stimulate a sustained multi-disciplinary effort. This should include programs and activities initiated by a wide variety of participants, such as consumer, professional, trade and other organizations, and private industries, with government cooperation and support where possible.

REFERENCES FOR SECTION IV

Life Science Research Office, Federation for American Societies for Experimental Biology, 1990. "Core Indicators of Nutritional States for Difficult-to-Sample Populations". Journal of Nutrition, 120:11S, November 1990 Supplement.

Life Science Research Office, Federation of American Societies for Experimental Biology, 1989. Nutrition Monitoring in the United States: An Update on Nutrition Monitoring. Hyattsville, MD, U.S. Department of Health and Human Services and U.S. Department of Agriculture.

National Academy of Sciences, Institute of Medicine, 1991. Improving America's Diet and Health: From Recommendations to Action. Washington, National Academy Press.

National Academy of Sciences, National Research Council, Committee on Diet and Health, 1989. Diet and Health: Implications for Reducing Chronic Disease Risk. Washington, National Academy Press.

Sharbaugh, C.O., M.C. Egan and the Maternal and Child Health Interorganizational Nutrition Group, 1991. Call to Action: Better Nutrition for Mothers, Children and Families. Department of Health and Human Services and the National Center for Education in Maternal and Child Health.

U.S. Department of Agriculture, 1991. 1990 Report on USDA Human Nutrition Research and Education Activities: A Report to Congress. Beltsville, MD, U.S. Department of Agriculture.

U.S. Department of Agriculture and U.S. Department of Health and Human Services, 1990. Dietary Guidelines for Americans

U.S. Department of Health and Human Services, 1988. The Surgeon General's Report on Nutrition and Health. DHHS Publication No (PHS) 88-50210, Washington, D.C., U.S. Government Printing Office

U.S. Department of Health and Human Services, 1990. Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Washington, D.C, U.S. Government Printing Office.

APPENDICES

APPENDIX I-1	EXECUTIVE SUMMARY: NUTRITION MONITORING IN THE UNITED STATES
APPENDIX I-2	AVERAGE MICRONUTRIENT INTAKE FOR VARIOUS AGE-SEX GROUPS, 1987-88, 1977-78
APPENDIX II-1	DESCRIPTION OF FEDERAL FOOD ASSISTANCE PROGRAMS
APPENDIX II-2	AGE AND SEX SPECIFIC RECOMMENDED DAILY ALLOWANCES (RDAs)
APPENDIX II-3	PER-CAPITA FOOD AVAILABILITY
APPENDIX III-1	FEDERAL RESEARCH ACTIVITIES
APPENDIX IV-1	ADDITIONAL FOOD AND NUTRITION OBJECTIVES FROM HEALTHY PEOPLE 2000
APPENDIX IV-2	NUTRITION MONITORING OBJECTIVES FROM: NUTRITION MONITORING IN THE UNITED STATES: AN UPDATE REPORT ON NUTRITION MONITORING
APPENDIX IV-3:	RECOMMENDATIONS FROM : IMPROVING AMERICA'S DIET AND HEALTH: FROM RECOMMENDATIONS TO ACTION
APPENDIX IV-4:	NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT AND THE 10-YEAR PLAN FOR NUTRITION MONITORING IN THE UNITED STATES

APPENDIX I-1: EXECUTIVE SUMMARY: NUTRITION MONITORING IN THE UNITED STATES

From Life Sciences Research Office, Federation of American Societies for Experimental Biology, September, 1989. Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring. DHHS Publication No. (PHS) 89-1255. Prepared for USDA and DHHS. Washington, D.C., U.S. Government Printing Office.

Executive Summary

The National Nutrition Monitoring System (NNMS) includes all data collection and analysis activities of the Federal government associated with health and nutrition status measurements, food consumption measurements, food composition measurements, dietary knowledge, attitude assessment, and surveillance of the food supply. The ad hoc Expert Panel on Nutrition Monitoring (EPONM) was established by the Life Sciences Research Office (LSRO) of the Federation of American Societies for Experimental Biology (FASEB) to review the dietary and nutritional status of the U.S. population, as well as the factors that determine status based on the NNMS data and information available through the activities of the U.S. Departments of Agriculture (USDA) and Health and Human Services (DHHS). This report requested by USDA and DHHS is the second report on the National Nutrition Monitoring System. It builds on the framework of the report developed by the Joint Nutrition Monitoring Evaluation Committee (JNMEC) in 1986.

Charge to Panel

The charge given to the EPONM for this report directed that two themes dominate:

- An updating of the dietary and nutritional status as presented in the 1986 JNMEC report, and
- An in-depth analysis of the contributions of the NNMS to assessment of the status of the population as determined from two types of data--data on diet and chronic diseases and data on dietary and nutritional problems.

With respect to the first theme, the EPONM was charged to update the first report by comparing data in that report with data from NNMS surveys that became available since it was written. The EPONM was also charged to address methodological issues in comparing data from different sources or times, and to identify the types of analyses necessary to make comparisons meaningful. Trend and baseline data presented in the first report were to be updated. The EPONM was to reevaluate the categorization of food components as to the completeness of relevant data and the level of monitoring status that should be accorded each food component.

With respect to the second theme, the EPONM was to include in the report in-depth analyses of two topics selected as examples of NNMS data: the first, represented by data on the relationship of diet to a specified chronic disease, was to emphasize dietary and nutritional factors in cardiovascular disease; the second, represented by data on a dietary and nutritional problem, was the assessment of iron nutriture. The objective of this part of the report was to demonstrate how NNMS data could contribute to understanding these public health concerns, as well as to identify the strengths and weaknesses of data and information available primarily from components of the NNMS. The ability to identify the nature and magnitude of nutrition-related problems in the U.S. population was to be addressed, with focus especially on the NNMS capabilities for identifying 1) populations at risk, 2) limits to interpretations of data, 3) gaps in the database, 4) trends, and 5) determining factors.

Response to Charge

The update portion of this report is a followup to the 1986 JNMEC report and is intended to identify new data available from the NNMS and to examine changes and trends in dietary intake, nutritional status, and nutrition-related health conditions. The JNMEC report emphasized a coordinated review of dietary data from the Nationwide Food Consumption Survey (NFCS) 1977-78 and nutritional and health status data from the second National Health and Nutrition Examination Survey (NHANES II). New national survey data on dietary intake and nutritional status of the entire U.S. population have not become available since the JNMEC report; however, data for certain subgroups of the population have become available. Most of the available data are for the three Hispanic groups surveyed in the Hispanic Health and Nutrition Examination Survey (HHANES) and the women and children surveyed in the Continuing Survey of Food Intakes by Individuals (CSFII) 1985-86.

Data analyses included in the report are intended to be descriptive of dietary and/or nutritional status, trends, and associations rather than to establish causal relationships. The report is not intended to serve the purpose of program evaluation. Summary data from relevant surveys are included, by topic, in appendix II; detailed analyses are provided in the body of the report when a public health issue is identified for some of the food components included in the update (criteria are described in chapter 3) as well as in the chapters on cardiovascular disease and diet and assessment of iron nutriture. Many of the data analyses presented were prepared by the Agencies specifically for inclusion in this report; others were obtained from Agency publications or the peer-reviewed literature.

Chapter 2 (on the appropriate uses of survey data for assessing dietary and nutrition-related health status) is responsive to the charge to address methodological issues in comparing data from different sources or times and to identify the types of analyses necessary to make comparisons meaningful. The discussions of data that comprise the update portion of this report are divided into two chapters, with the first (chapter 3) providing new data on dietary intake, food availability, major food sources of various food components, and nutritional status with respect to various nutrients, and the second (chapter 4) providing new estimates of the prevalence of nutrition-related health conditions and behaviors. Reference is made to baseline data when appropriate.

With respect to the second charge to the EPONM, the two selected topics are discussed separately. The chapter on nutritional and dietary factors in cardiovascular disease (chapter 5) concentrates on the utility of NNMS data in assessing risk factors for cardiovascular disease and dietary and other factors related to these risk factors. The chapter on assessment of iron nutriture (chapter 6) concentrates on the utility of NNMS data in assessing the prevalence of iron deficiency and identifying groups at risk and the factors contributing to iron nutriture. Finally, chapter 7 contains the EPONM's specific recommendations for improvements in the NNMS, based on their experiences in evaluating the data analyses in this report.

Update of Dietary and Nutritional Status

Major Conclusions

The EPONM drew the following conclusions based on their review of new NNMS data:

- In the United States today, the amounts of food available in the food supply and the nutrient content on a per capita basis are generally adequate to prevent undernutrition and deficiency-related diseases. Although some Americans may not have sufficient food for a variety of reasons, the supply of food that is available is abundant.

- The NNMS does not provide sufficient population-based data to permit a full assessment of nutritional status in some groups for whom there are special concerns about nutritional status, such as young infants and pregnant and lactating women. In addition, some other groups whose nutritional status may reasonably be suspected to differ from that of the general population, such as the homeless, institutionalized persons, migrant workers, and Native Americans living on reservations, are not included in most of the current household-based surveys of the NNMS. Finally, very little information on the dietary and nutritional status of the elderly (a group for which standards for nutrient adequacy and normal physiologic status have been questioned) was available in the most recent NNMS data that were the focus of this evaluation.

- Evidence from recent analyses of the U.S. food supply and from surveys of individual food consumption suggests that some changes are occurring in eating patterns consistent with recommended dietary guidelines for Americans to avoid too much fat, saturated fat, and cholesterol and to consume adequate amounts of starch and dietary fiber. Recent data indicate that consumers are increasingly choosing some lower-fat alternatives within the meat and dairy product food groups and are increasing their consumption of grain products.

- Evidence available on dietary and nutritional status with respect to individual food components does not indicate substantial changes since the JNMEC report was completed in 1986. Consequently, the EPONM and JNMEC classifications of food components by public health monitoring priority are very similar.

- The principal nutrition-related health problems experienced by Americans continue to be related to the overconsumption of some nutrients and food components, particularly food energy, fat, saturated fatty acids, cholesterol, sodium, and alcohol.

  - The high prevalence of overweight among adults in the United States is evidence that energy intakes exceed energy expenditures (probably because of low energy expenditures, although this possibility cannot be assessed currently in the NNMS); however, reported intakes of food

energy do not exceed standards. (Recommended Energy Intakes). The JNMEC noted that more than one-quarter of the adult U.S. population was overweight, based on data collected in NHANES II. Data collected since then in the HHANES (1982-84) also indicate a high prevalence of overweight in three Hispanic groups not previously studied (26-42 percent), especially in Mexican-American and Puerto Rican women (40 and 42 percent, respectively). Overweight is a controllable risk factor for cardiovascular disease, high blood pressure, and diabetes.

- Intakes of total fat and saturated fat continue to be higher than the levels recommended by many authoritative groups; cholesterol intakes are high for adult men. These high intakes are reflected in the high prevalence (11-22 percent) of elevated levels of total serum cholesterol, as defined by the 1984 NIH Consensus Development Conference, found in nearly all adult groups aged 20-74 years in the United States. Elevated serum cholesterol levels constitute an important controllable risk factor for coronary heart disease.

- Sodium intakes also exceed recommended levels in almost every group in the United States. Such intakes are of concern because of the sensitivity of blood pressure in some persons to sodium intake. Hypertension is prevalent (14-44 percent) in adult groups aged 20-74 years in the U.S. population. Hypertension is a controllable risk factor for cardiovascular disease and stroke.

- Although consumption of excessive alcohol does not appear to be prevalent in a large proportion of the population, reported intakes are high in a large number of Americans and the serious nature of the health and social consequences of such intakes justifies public health concern.

- In spite of the general adequacy of the supply of nutrients, there is evidence of inadequate individual dietary intake and/or impaired nutritional status in some subgroups in the population with respect to a few vitamins and minerals.

  - Iron deficiency continues to be the most common single nutrient deficiency, even though some recent hematological and biochemical evidence from the NNMS suggests that its prevalence has declined in children aged 1-5 years. Among groups that are assessed adequately in the NNMS, women of childbearing years and young children are at greatest risk for iron deficiency.

  - Although less evidence is available, the calcium status of women is a concern. The high prevalence of osteoporosis in later life is suggestive that the calcium intake of many women may be inadequate to permit the accretion of maximal bone mass in early adulthood and/or to maintain bone mass later in life.

  - Limited evidence from biochemical assessments suggests that the vitamin A, vitamin C, and folacin nutritional status of some subgroups of the population might be improved.

  - Intakes of zinc and vitamin B6 are also low, and poor status has been reported in some population groups in the clinical literature, but further study is needed to assess the health consequences of the reported intakes in U.S. population groups.

- The risk of nutrition-related disorders is generally greater in low-income groups than in groups with higher incomes.

  - The prevalences of both overweight and iron deficiency are greater in women below poverty than in women above poverty.

  - The intakes of several vitamins and minerals are lower in persons below poverty than in persons above poverty. This finding is also highlighted in the low-income component of the CSFII 1985-86. Women in the low-income survey had lower intakes of food energy than women in the all-income survey. Intakes of vitamin E, vitamin B6, folacin, calcium, magnesium, iron, and zinc were low in women in both surveys, but lower in the low-income survey than in the all-income survey. Low-income women and children who lived in households that participated in the Food Stamp Program had nutrient intakes that were generally the same or higher than those of low-income women and children living in households that did not participate in the program.

- The ability of the EPONM to examine excessive intakes of vitamins and minerals, and possibly to assess consequences of nutrient toxicity, was limited because none of the available NNMS surveys that assess nutrient intake from food included quantitative estimates of nutrient intake from vitamin/mineral supplements.

- Although the data available to the EPONM for their update on dietary and nutritional status of the U.S. population were not equivalent to the data reviewed by the JNMEC, in terms of the populations surveyed, the conclusions of the EPONM are very consistent with those of the JNMEC. The results of recently completed and ongoing national surveys of dietary and nutritional status by USDA

and DHHS will provide a more extensive database for further evaluation of the nutritional status of the U.S. population and various subgroups in future reports on the NNMS.

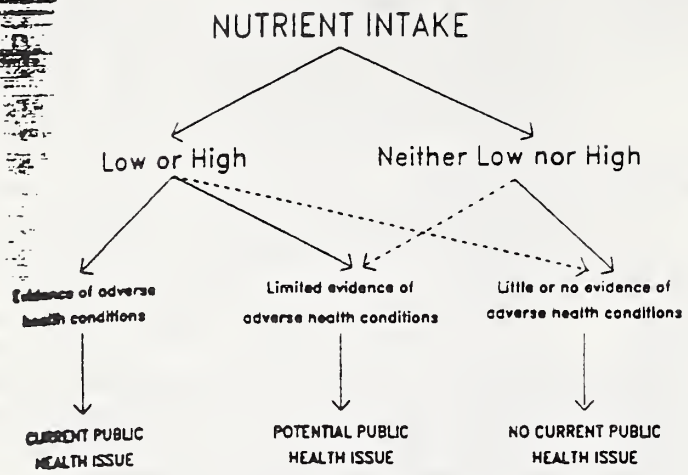
Monitoring Priority Status for Individual Food Components

The availability of relevant update data on dietary, nutritional, and health status from the various surveys of the NNMS for each food component varies. The data elements from the NNMS common to most of the food components considered are per capita amounts in the food supply and individual dietary intakes. The quality and quantity of data, as well as the availability of appropriate assessment criteria, differ for different components and influence the confidence with which evaluations of status may be made.

The JNMEC classification and the classification used in this update report by the EPONM are similar philosophically (see table below). In the JNMEC report, nutrients and other food components were prioritized in three categories to contrast those components having high and moderate priority status for continued monitoring with the third group identified as those requiring further investigation. In this report, the EPONM labeled the categories somewhat differently to place emphasis on their evaluation in regard to public health significance. The category of food components considered to be current public health issues by the EPONM can be equated to the JNMEC category of food components warranting public health monitoring priority status. The category of food components considered by the EPONM to b potential public health issues and requiring furthe study is most similar to the JNMEC category c components requiring further investigation. The typ of additional study required for each componen differs; basic research on the health consequences c high or low intake, additional data on foo composition and dietary intake, and/or th development of methods for assessing status togethe with interpretative criteria may be needed. Th EPONM category of food components that are nc considered current public health issues is most simila to the JNMEC category of components warrantin continued monitoring consideration. Assigning foo components to this category does not necessaril indicate that there are no known health problem associated with these components, but that th prevalence of such problems on a national basis i known or expected to be so low that a lower level c monitoring effort than for food components in th other categories is appropriate.

A schematic diagram that illustrates the decision-making process used by the EPONM for categorizing food components is shown in the figure on the opposite page. This process differs from the one used by the JNMEC in that the evaluation of each food component begins with the dietary intake data. This choice to begin the evaluation of each food component with consideration of the dietary intake data was made recognizing that such data are available for most of the components included; the same is not true of related health data. However, as illustrated in the figure, the resulting evaluations by both the EPONM and JNMEC are similar in that the evidence for adverse health consequences ultimately determines the categorization of food components.

EPONM classification of food components	JNMEC classification of food components
Current public health issues	Warranting public health monitoring priority
Potential public health issues for which further study is required	Requiring further investigation
Not current public health issues	Warranting continued public health monitoring consideration



In the discussions of each of the categories that follow, the criteria for assigning food components to the category are described, update data available related to the components are tabulated, and brief conclusions about each food component are presented. A "plus" in the table indicates data were available; a "minus" indicates they were not. The notation "limited" indicates that food composition data were available for less than 75 percent of important sources of the nutrient.

- **Food components were considered to be current public health issues**

  - if dietary intakes were low or high for a substantial proportion of the population, and if evidence from NNMS surveys of health and nutritional status indicated related health problems in the population or in subgroups of the population, or

  - if dietary intakes were low or high for a substantial proportion of the population, and if evidence from epidemiological or clinical studies in the literature indicated related health problems in the population or in subgroups of the population.

  Food components in this category are recommended for high priority monitoring status; that is, multiple assessments, when possible, should continue to be employed. A high priority should be given to development of assessment tools when these are lacking.

The food components listed in the following table were considered to be current public health issues.

Food component	Food composition data	Dietary data	Health data
Food Energy	+	Food supply Individual intake	Overweight and associated conditions
Fat	+	Food supply Individual intake	Serum cholesterol level
Saturated fat	+	Food supply Individual intake	Serum cholesterol level
Cholesterol	+	Food supply Individual intake	Serum cholesterol level
Alcohol	+	Disappearance/sales Individual intake (limited)	–
Iron	+	Food supply Individual intake	Mean corpuscular volume, transferrin saturation, erythrocyte protoporphyrin, hemoglobin/hematocrit
Calcium	+	Food supply Individual intake	–
Sodium	+	Individual intake (limited)	Blood pressure

Reported dietary intakes of food energy by adults are lower than Recommended Energy Intakes, but the data available from the NNMS on the high prevalence of overweight (approximately one-fourth of adults) in many groups in the United States suggest a continuing public health problem in regard to energy balance. Food energy should be accorded high priority for monitoring status. Additional information on both energy intake and energy expenditure (physical activity) is required to evaluate the relative impact of these factors on the occurrence of obesity.

The intakes of total fat, saturated fat, and cholesterol by many persons in the U.S. population exceed levels recommended by many authoritative groups. Serum cholesterol levels are affected by dietary intake of these components (and other factors); elevated levels of serum cholesterol are prevalent in the United States (11-22 percent) in men and women of all racial and ethnic groups examined and represent a risk factor for the development of coronary heart disease. Continued priority for the monitoring of serum cholesterol levels and the dietary intake of fat, fatty acids, and cholesterol is warranted.

Self-reported alcohol intakes are high (an average of 1 ounce or more of ethanol per day) in a large number of persons (9 percent of adults). The public health and social consequences of excessive alcohol intake are sufficiently grave that continued efforts to improve monitoring of alcohol intake are warranted.

Iron intakes are low for many in the population. Although the prevalence of iron deficiency has apparently declined in recent years, it is still relatively high in vulnerable groups (up to 14 percent) such as women of childbearing years. Continued monitoring is warranted and is likely to yield useful information on iron nutritional status because of the wealth of indicators available for inclusion in the NNMS.

The low intakes of calcium in vulnerable groups, especially women, suggest a reason for concern. The high prevalence and severity of osteoporosis, which is possibly related, in part, to calcium intake of adolescents and young women, provide sufficient evidence for a public health concern. Calcium should be considered a nutrient about which there is public health concern even if there is some question about its exact role in health disorders. Monitoring the intake of calcium and including assessments of bone status in NNMS surveys is warranted, as is investigating th possible overuse of calcium supplements by adults.

Reported dietary intakes of sodium are high in mar persons relative to estimates of safe and adequa levels of intake; reported intakes do not account fc all sources of sodium. The prevalence of hyperten sion, which is related in some persons to sodiu intake as well as other factors, is high in all adu groups examined (14-44 percent). Because of th serious, and largely preventable, deleterious effects elevated blood pressure, a high level of monitorir effort is warranted. Blood pressure measuremen should continue to be included in surveys and effor to improve and validate the assessment of tot sodium intake should be pursued.

- **Food components were considered to b potential public health issues, for whic further study is needed,**

  - if dietary intakes were low or high for substantial proportion of the population, and limited evidence from either NNMS nutritic and health surveys or studies in the literatu suggested related health problems in at lea some subgroups in the population, or

  - if dietary intakes were adequate for th majority of the population, but limite evidence from either NNMS nutrition an health surveys or studies in the literatur suggested related health problems in at lea some subgroups in the population, or

  - if dietary intakes were low or high for substantial proportion of the population, and evidence was not available from either NNM nutrition and health surveys or studies in th literature that permitted evaluation of th public health significance of the observe dietary intakes.

  Food components in this category ar recommended for moderate monitoring priorit status, with continued assessment at the least i subgroups suspected to be at risk, and moderat priority for the development of improve assessment techniques.

The food components listed in the following table were considered potential public health issues, for which further study is needed.

Food component	Food composition data	Dietary data	Health data
Dietary fiber	+ (limited)*	Individual intake	–
Vitamin A	+	Food supply Individual intake	Serum retinol level
Carotenes	+	Food supply Individual intake	–
Folacin	+	Food supply Individual intake	Serum and red blood cell folate levels
Vitamin B6	+ (limited)*	Food supply Individual intake	–
Vitamin C	+	Food supply Individual intake	–
Potassium	+	Food supply Individual intake	–
Zinc	+	Food supply Individual intake	–
Fluoride	–	–	Dental caries

* Less than 75 percent analytical data for important sources of the food component.

Intakes of dietary fiber are low in relation to suggested levels of intake, but the impact of these low intakes cannot be judged on the basis of available data. More information is required on the health effects of dietary fiber, the content in foods of various components of fiber (which have different physiological effects) as well as total dietary fiber, and recommendations for intake. Monitoring is recommended as this information is developed.

The content of vitamin A in the food supply and individual intakes suggest general adequacy. Intake and status may, however, warrant continued monitoring efforts in certain groups. HHANES data on low serum vitamin A levels suggest that poor young children, particularly Mexican Americans, may be such a group. Greater attention needs to be given to studying the relationships of biochemical assessments of status to functional impairments. Carotenes are also considered a potential public health issue for which further study is required. Data on intake of carotenes are available from the CSFII 1985-86 and will be available from HHANES to provide a baseline for assessing future changes in intake. Future surveys should continue to collect and report intake separately for carotenes and total vitamin A. Additional research is needed on the health effects of consumption of specified levels of total carotenes, as well as individual carotenes.

Vitamin B6 intakes are lower than recommended levels for a substantial number of persons, especially women. In order to interpret the consequences of these intakes, further study is needed on the content and bioavailability of vitamin B6 in foods, vitamin B6 requirements, and biochemical or other techniques for assessing vitamin B6 nutritional status. Increased monitoring activity may be warranted as progress is made in these areas.

Recent dietary intakes of vitamin C appear to be adequate in most of the population, even without consideration of the substantial contribution of vitamin C supplements. Older data for serum vitamin C (from NHANES II) indicate that the prevalence of low serum vitamin C levels is generally higher in groups with low socioeconomic status, especially older men, but do not provide strong evidence for vitamin C deficiency. Although these data suggest the need for some continued surveillance, changes in vitamin C

fortification practices may affect intake among many segments of the population. Continued monitoring is warranted to assess the impact of these changes, but the apparently adequate intakes do not provide support for priority monitoring status.

Folacin intakes are much lower than recommended in some groups, especially women. Biochemical and other evidence for deficiency is limited, but suggests a risk of deficiency in women. Further study is required to evaluate folacin requirements, to develop methods and interpretative criteria for folacin nutritional status, and to examine the status of groups at risk.

Potassium intakes are lower than recommended levels in a substantial number of persons in the population. Further research on the role of potassium intake in the regulation of blood pressure and on the assessment of potassium status is needed to elucidate the public health significance of the low intakes observed.

Zinc intakes are lower than recommended levels in some groups, particularly women. The possibility of impaired zinc status is not supported by available biochemical or clinical data from the NNMS. However, findings from the clinical literature suggest zinc deficiency in some groups in the United States. The significance of the observed low dietary intakes of zinc cannot be evaluated until additional research to determine zinc requirements and to develop better measures of zinc status is conducted. Further monitoring is warranted.

The EPONM agrees with the JNMEC's concern that fluoride intake may be too low in some groups to provide maximal benefit, but NNMS data are not currently available that permit evaluation of this possibility. Assessments of fluoride intake that take all sources into account are warranted.

- **Food components were not considered to be current public health issues**

  - if dietary intakes were adequate for the majority of the population, and evidence from either NNMS nutrition and health surveys or studies in the literature did not suggest related health problems in the population, or

  - if dietary intakes were low or high for a substantial proportion of the population, but evidence from either NNMS nutrition and health surveys or studies in the literature did not suggest related health problems in the population.

  Food components in this category are recommended for lower monitoring priority status; continued assessment should include, at a minimum, estimation of dietary intake.

The food components listed in the following table were not considered to be current public health issues:

Food component	Food composition data	Dietary data	Health data
Protein	+	Food supply Individual intake	-
Carbohydrate	+	Food supply Individual intake	-
Vitamin E	+ (limited)*	Food supply Individual intake	Serum α-tocopherol level
Thiamin	+	Food supply Individual intake	-
Riboflavin	+	Food supply Individual intake	-

* Less than 75 percent analytical data for important sources of the food component.

Food component	Food composition data	Dietary data	Health data
Niacin	+	Food supply Individual intake	–
Vitamin B12	+ (limited)*	Food supply Individual intake	–
Phosphorus	+	Food supply Individual intake	–
Magnesium	+ (limited)*	Food supply Individual intake	–
Copper	+	Food supply Individual intake	–

* Less than 75 percent analytical data for important sources of the food component.

Protein intakes appear to be adequate for almost all persons and there is no evidence of health problems associated with deficiency or excess. Monitoring should continue at a low level, especially for the elderly.

Carbohydrate intakes are lower than may be desirable, based on the dietary pattern recommended in the U.S. dietary guidelines (USDA/DHHS, 1985), but evidence does not suggest that current intakes pose a specific public health problem. Monitoring of intake should continue; if recommended decreases in the percent of energy from fats occur, concomitant increases in the proportion of energy from carbohydrates are expected.

Although some vitamin E intakes are lower than recommended levels (especially in women), data on serum α-tocopherol levels and clinical data on the rarity of vitamin E deficiency suggest little reason for a public health focus. Interpretation of serum α-tocopherol levels is confounded by other factors such as serum lipid concentrations, and clear interpretative guidelines to assess marginal vitamin E status do not yet exist.

Intakes of thiamin appear to be adequate, and no other evidence suggests a public health problem with respect to thiamin status.

Intakes of riboflavin appear to be adequate, and no other evidence suggests a public health problem with regard to riboflavin status.

Individual intakes of preformed niacin appear to be adequate (and additional niacin may be obtained from the conversion of dietary tryptophan in the body). No other evidence suggests a public health problem in relation to niacin status.

Intakes of vitamin B12 appear to be adequate for the majority of the population. Clinical or biochemical evidence for a public health problem with respect to vitamin B12 deficiency is not available. Further monitoring, at a low level, is warranted.

Phosphorus intakes appear to be adequate, and no other evidence exists to suggest a public health problem. Monitoring should continue at a relatively low level.

Magnesium intakes appear to be low, but there are no other data on magnesium status available and magnesium deficiency is very unlikely to result from low dietary intake alone. Further research on magnesium requirements and assessment of magnesium status would be desirable. Current information supports continued monitoring at a low level.

Copper intakes appear to be low in a large number of persons in the population. Despite some unanswered questions about the estimation of intake and the assessment of status, the likelihood of a public health problem associated with copper is very low. Monitoring should continue at a low level, unless further research suggests more compelling reasons for concern.

Use of NNMS Data to Examine Dietary and Nutritional Factors in Cardiovascular Disease

The EPONM identified the following limits to interpretation of the data and gaps in the database, based on their review of the data available from the NNMS with respect to dietary and nutrition factors in cardiovascular diseases:

- The most recent dietary survey, the CSFII 1985-86, provides estimates of dietary intake of several food components associated with cardiovascular diseases: food energy, fat, saturated fat, mono-unsaturated fat, polyunsaturated fat, cholesterol, dietary fiber, calcium, and potassium. Estimates of sodium intake from food are also available, but these exclude sodium from salt added at the table; thus, total sodium intake is underestimated. Estimates of alcohol intake from self reports are also less certain, because of methodological difficulties such as underreporting. Because the properties of individual fatty acids differ, estimates of their intake would also be desirable; the nutrient composition databases available during the EPONM's review do not contain composition information with respect to individual fatty acids.

- With respect to implications for cardiovascular disease, the most recent data on the distribution of usual dietary intakes are limited because they are for women and children, groups not thought to be at high risk of cardiovascular disease. The earlier NFCS 1977-78 obtained dietary intake data for multiple days for both sexes and all ages, but the nutrient composition database was more limited with respect to information on fatty acids and cholesterol at the time.

- The ability to assess the distribution of usual dietary intakes from the data obtained in the Health and Nutrition Examination Surveys (HANES) is more limited because only 1 day of dietary data is collected.

- Trends in dietary intake of individuals with respect to fat and cholesterol, as assessed by the dietary and health surveys of the NNMS, must be interpreted with caution because of differences in survey methodology and improvements in the nutrient composition databases over time. The ability to interpret changes in intake over time could be improved by the conduct of methodological studies designed to assess the consequences of changes in survey procedures on the estimates generated.

- Cross-sectional associations of dietary influenc and risk factors for cardiovascular diseases may b examined using data from the HANES, but th power of such analyses is severely restricte because of the large day-to-day differences in th food and nutrient intake of any individual. Th results of analyses of 1-day food intakes of indi viduals do not represent the average usual intak of any individual over a longer period of time. I studying diet and disease relationships, it generally recognized that an estimate of averag or "usual," nutrient intakes is needed. Wit respect to studying relationships between diet an cardiovascular disease risk factors in the NNM measurements of "usual" dietary intake are no obtained for the same individuals in whor measurements of risk factors are performed Other limitations in interpretation of such associ ations exist because of the nature of cross sectional data; an "association" between a postu lated risk factor and a disease may be identifiec not because it is causally related to the disease, bu because it is related to another factor which i really one of the causes of the disease.

- Because a single 24-hour recall was used to obtain dietary intake information, there are also limitations in the interpretation of relationships between dietary intake and subsequent morbidity and mortality in the longitudinal NHANES I Epidemiologic Followup Study.

- Surveys have not assessed directly the impact o knowledge and attitudes about cardiovascular disease risk factors and diet on patterns of food consumption or nutrient intake.

The EPONM drew the following conclusions, based on the analyses reviewed, about the major contributions of the NNMS to the understanding of dietary and nutritional factors as they relate to cardiovascular diseases:

Populations at Risk

- Measurements of body weight, blood pressure, serum lipids, and glucose tolerance and questionnaires in the HANES permit the assessment of the prevalence of several major diet- and nutrition-related risk factors for cardiovascular diseases--obesity (overweight), hypertension, elevated serum cholesterol level, and diabetes--in nationally representative samples. By comparing the prevalence estimates of different population groups, some characteristics of groups most affected by each risk factor can be identified. Characteristics

of the groups at risk differ depending on the risk factor considered. For example, blacks are at greater risk of hypertension than whites; women of low socioeconomic status are at greater risk of obesity than women of high socioeconomic status, and persons above poverty are at greater risk of hypercholesterolemia than persons below poverty. The characteristics of individuals with multiple risk factors can also be examined: black males have a higher prevalence of multiple risk factors than white males and black or white females. However, a model that quantitates the relative contribution of all risk factors, including genetic predisposition, has not been developed that can be applied to NNMS data to assess overall risk of cardiovascular diseases.

- High intakes of fat, especially saturated fat, and cholesterol constitute risk factors for hypercholesterolemia, and characteristics of populations with high intakes can be assessed in the NNMS. For example, in women, high fat intake is associated with being white, having more than a high school education, and smoking.

Trends

- Data from the U.S. Food Supply Series provide information on trends in the foods and amounts of food components in the food supply over time. Although the inferences about food consumption and food component intake that may be drawn from these data are limited, they are nonetheless useful to demonstrate shifts over time within food supply sources of various food components related to cardiovascular diseases (notably, total fat and fatty acid groups) in the national diet. These data indicate recent shifts from animal sources of fat to vegetable sources of fat, consistent with dietary guidance to avoid too much saturated fat.

- Data from the surveys that collect information on food consumption indicate a decline in the consumption of some high-fat foods and foods containing saturated fat. Some changes observed in the past 20 years include a shift from whole milk to low-fat milks, an increased consumption of leaner types and cuts of meat, and an increase in the use of margarine with a concomitant decrease in the use of butter.

- However, as noted earlier, interpretation of trends in nutrient intake is problematic because of changes in survey methods over time.

- Biochemical and clinical measurements that permit assessment of the prevalence of overweight, hypertension, and elevated serum cholesterol levels have been made repeatedly over time (with limited changes in methodology). Thus, trends in the prevalence of these risk factors can be assessed. Data from the NNMS indicate a recent decline in the prevalence of hypertension and elevated serum cholesterol levels, but no decline in the prevalence of overweight. Associations between risk factors (for example, body weight and serum cholesterol level) and the occurrence of multiple risk factors in population groups can also be examined.

- The NNMS trend data are useful for examining concurrent changes in group intakes or status over time. For example, changes in food availability in the food supply contributing to a decrease in the content of saturated fat have been observed to precede the decline in coronary heart disease mortality. Changes in mean serum cholesterol levels consistent with changes in mean dietary intake of fats and cholesterol can also be detected between the first and second NHANES.

Determining Factors

- Sex and age are important determining factors for the risk of coronary heart disease and cerebrovascular diseases. Men are at higher risk than women for coronary heart disease and hypertension. Although serum cholesterol levels do not vary dramatically with sex, elevated levels constitute a greater risk for men than for premenopausal women. The dietary intakes of fat, saturated fat, and cholesterol are higher in males than in females.

- Race also has an important impact on relative risk of cardiovascular disease. NNMS and related data indicate that blacks are at greater risk than whites for coronary heart disease, cerebrovascular disease, hypertension, and hypercholesterolemia. More black women are significantly overweight than white women or men of either race.

- The effects of socioeconomic factors such as poverty status and education do not seem consistent for all risk factors related to cardiovascular diseases. Indicators of high socioecomic status tend to be associated with hypercholesterolemia and higher intakes of fat, but with lower prevalences of hypertension and, for women, overweight.

- Several surveys of the NNMS permit the assessment of knowledge and attitudes about diet- and nutrition-related risk factors for cardiovascular disease. Such surveys have been repeated over time and show a trend for increasing knowledge and changing diet-related practices.

Use of NNMS Data for the Assessment of Iron Nutriture

The EPONM identified the following limits to interpretation of the data and gaps in the database, based on their review of the data available from the NNMS with respect to the assessment of iron nutriture:

- Information about selected groups at risk of iron deficiency, pregnant women and infants under age 1 year, is inadequate. In pregnant women, anemia is associated with increased neonatal mortality and a higher prevalence of low birthweight. Iron deficiency during the brief period of infancy is believed to lead to long-term harmful consequences in regard to subsequent development. In both groups, dietary practices differ from other age and sex groups. In both of these groups, dietary intake and use of supplements over a period of 6 to 9 months determine the risk of iron deficiency. These groups require longitudinal assessment over at least 6 months for an adequate assessment of their nutritional status because iron status changes rapidly over a period of a few months.

- The combination of foods eaten at each meal is the most important determinant of iron absorption. Such information is even more important than the amount of iron consumed and has only been analyzed on a very limited scale. Improvements in the ability to provide such analyses should be incorporated into the NNMS.

- Distinguishing iron deficiency from mild inflammatory conditions is difficult because laboratory measurements in mild inflammatory conditions or following infections may mimic iron deficiency, thereby suggesting a higher than actual prevalence. This problem, which is greatest among the elderly, may be alleviated by using a recently developed four-variable model to assess iron nutriture and laboratory tests that reflect the presence of inflammation.

- Criteria for anemia in blacks are uncertain. Blacks have lower hemoglobin concentrations than whites irrespective of iron status. These lower concentrations lead to misleadingly higher prevalences of anemia among blacks if uniform criteria for low hemoglobin values are used for all races. This problem can be circumvented by using the three- or four-variable models for iron deficiency (that do not include hemoglobin as a variable) and by using laboratory tests that reflect the presence of inflammatory disease (C-reactive protein).

- No information on blood donation has been collected in the NNMS.

- More detailed information is needed on the type and amount of supplement intake. Total iron intake could not be determined because quantitative estimates of iron intake from supplements were not available from any of the surveys in which estimates of intake from food were made.

The EPONM drew the following conclusions, based on the analyses reviewed, about the assessment of iron nutriture in the United States using NNMS data:

Populations at Risk

- The variety of biochemical and hematological measures of iron nutritional status collected in the NNMS permits an estimation of the prevalence of iron deficiency and iron deficiency anemia in the U.S. population and some characterization of population groups at risk of iron deficiency.

- The prevalence of iron deficiency anemia (based on findings of low hemoglobin levels plus evidence of iron deficiency) in NHANES II and HHANES is low (less than 5 percent); however, the prevalence of iron deficiency without anemia is still appreciable (up to 14 percent) in several groups.

- Groups at greatest risk of iron deficiency, as indicated by the biochemical data from the NNMS, are young children, adolescents, and women of childbearing age.

- Pregnant women and infants under 1 year of age are risk groups not well covered in current nationally representative surveys. Surveillance data for the Centers for Disease Control indicate that low-income pregnant women are at high risk of anemia.

- Dietary iron intake, assessed in the CSFII 1985-86, is very low in women of childbearing years relative to recommended levels. Available iron intake determined by using data from the NFCS 1977-78 is also low for women relative to apparent requirements. The intake estimates do not include the contribution from iron supplements.

- In contrast to iron deficiency, iron overload cannot be assessed adequately with current NNMS data to identify groups at risk. The prevalence of hemochromatosis is too low to be estimated reliably by available NNMS surveys.

Trends

- The best trend data available are those on the nutrient content of the U.S. food supply, which indicate an increase in the level of iron in recent years.

- Assessing trends in individual intakes of iron by various population groups is more difficult because of methodological differences in the surveys over time, including revised nutrient composition data. The available NNMS data indicate little change during the last 20 years.

- Assessing trends in iron nutritional status is also difficult, because the measures used to estimate the prevalence of iron deficiency have not been used in many surveys. Limited data from the Pediatric Nutrition Surveillance System suggest recent improvements in iron status among the low-income children monitored.

Determining Factors

- Sex and age are powerful determining factors relative to iron nutritional status. Evidence of iron deficiency is rare in males, in the elderly of both sexes, and in school children.

- Univariate analyses of NNMS data indicate that the prevalence of iron deficiency is influenced by race and socioeconomic factors such as poverty status and education. Iron intake also differs with these variables, but not as consistently as iron status, suggesting differences in bioavailable iron.

- Parity is also observed in NNMS data to be an influence on iron status in women during childbearing years; women who have given birth to many children are at greater risk of deficiency.

- Other determining factors, such as iron supplement use, blood donation, use of medications, and growth, could not be assessed with current data from the NNMS.

Recommendations

The EPONM offered recommendations, based on their experiences in analyzing NNMS data for this report, for improvements in the NNMS in several areas:

- Improved comparability of nutrient composition data and coding used in different dietary surveys.

- Testing the impact of methodological differences on survey results.

- Use of a common core of sociodemographic descriptors in all NNMS surveys.

- Greater similarities in NNMS data reporting.

- Investigation of methods for assessing population groups currently excluded from the NNMS.

- Improved coverage of some groups at nutritional risk: infants, pregnant women, lactating women, the elderly, preschool children, and adolescents.

- Improved measures of usual dietary intake in the HANES.

- Collection of information for assessing the impact of knowledge and attitudes on patterns of food consumption and nutrient intake.

- Obtaining quantitative information on vitamin and mineral supplement use to better estimate total nutrient intake.

- Improving estimates of alcohol consumption.

- Improving response rates and analyzing nonresponse.

- Educating data users in the proper use of data from complex surveys.

- Being responsive to the needs of State and local data users.

The EPONM also suggested that, in future reports on the NNMS, the updates of nutritional status of the U.S. population be prepared separately from reports of detailed analyses of special topics. Updates might take the form of comprehensive reviews such as this report or might consist of tabulations of new data with more limited interpretation.

APPENDIX I-2: AVERAGE MICRONUTRIENT INTAKE FOR VARIOUS AGE-SEX GROUPS, 1987-88, 1977-78

APPENDIX I-2: AVERAGE MICRONUTRIENT INTAKE FOR VARIOUS AGE-SEX GROUPS, 1987-88, 1977-78

Table 2A-1.--Nutritive Value of Intake Average per Individual per Day, 1 Day, 1987-1988

Sex and Age (Years)	Population	Food Energy	Protein	Fat	Carbohydrate	Calcium	Iron	Magnesium
	Percent	Kilocalories	Grams			Milligrams		
Males And Females:								
Under 1	1.1	832	22.3	34.8	109.8	732	18.7	111
1-2	2.9	1,176	48.3	47.2	143.0	780	8.8	168
3-5	4.6	1,375	52.7	52.6	177.7	772	10.6	183
6-8	4.7	1,699	64.2	68.4	212.5	904	12.9	224
Males:								
9-11	1.9	2,026	77.6	81.3	252.9	1,048	15.0	259
12-14	2.1	2,344	90.4	93.0	292.8	1,129	15.9	285
15-18	3.0	2,442	93.0	99.3	300.0	1,132	19.3	297
19-22	3.0	2,395	87.8	96.4	282.2	921	14.8	266
23-34	9.8	2,316	92.3	96.5	261.9	931	15.1	296
35-50	10.6	2,196	91.2	94.1	238.1	795	15.3	280
51-64	5.8	1,937	82.1	83.8	208.3	726	14.0	269
65-74	3.2	1,883	78.6	78.7	210.6	728	14.8	267
75 AND OVER	1.7	1,929	77.6	77.8	229.9	739	14.5	287
Females:								
9-11	2.4	1,734	67.3	67.5	220.4	846	12.3	223
12-14	2.1	1,813	67.8	72.6	227.2	787	13.0	214
15-18	3.2	1,642	64.6	67.0	198.0	791	10.8	191
19-22	3.2	1,602	62.4	63.4	197.0	643	11.3	187
23-34	10.7	1,604	63.7	66.5	186.6	657	11.1	206
35-50	10.9	1,467	61.2	60.1	169.2	566	10.6	208
51-64	6.4	1,453	64.4	58.8	167.9	585	11.4	223
65-74	3.8	1,421	60.1	56.3	172.4	577	11.0	227
75 AND OVER	2.9	1,372	57.1	55.8	164.4	595	10.8	197
All Individuals	100.0	1,785	71.8	73.3	208.6	758	12.9	236

NOTE: Response rates for the NFCS 1987-88 were very low, approximately 38% at the household level and 31% at the individual level. Within these households, 81% of the eligible individuals provided at least one day of intake data. Users should balance their needs and tolerance of error against potential nonresponse bias in this dataset. Confirmatory data from other sources should be sought to support estimates based on NFCS 1987-88 data analysis.

SOURCE: Nationwide Food Consumption Survey, 1987-88.

Table 2A.1--Nutritive Value Intakes Average per Individual per Day, 1 Day, 1987-88--continued

Sex and Age (Years)	Phosphorus	Vitamin A Value	Thiamin	Riboflavin	Niacin	Vitamin B-6	Vitamin B-12	Vitamin C
	Grams	International Units	Milligrams				Micrograms	Milligrams
Males And Females:								
Under 1	591	5,006	1.25	1.69	12.6	0.72	3.06	145
1-2	914	3,478	1.04	1.60	12.1	1.12	3.59	71
3-5	975	5,333	1.19	1.75	15.1	1.32	4.98	76
6-8	1,166	5,186	1.42	1.99	18.0	1.59	4.71	89
Males:								
9-11	1,365	5,110	1.76	2.39	22.0	1.97	5.13	96
12-14	1,552	6,224	1.90	2.52	23.4	1.98	6.88	113
15-18	1,574	6,901	1.86	2.53	25.1	2.09	7.07	116
19-22	1,421	4,313	1.70	2.13	24.0	1.80	6.66	98
23-34	1,454	6,460	1.60	2.06	24.3	1.87	6.08	98
35-50	1,330	5,933	1.58	1.95	24.0	1.79	5.91	94
51-64	1,211	7,865	1.54	1.87	21.8	1.73	5.71	105
65-74	1,172	8,709	1.58	1.96	22.4	1.93	5.38	100
75 AND OVER	1,236	7,034	1.56	1.94	20.7	1.73	6.04	118
Females:								
9-11	1,162	4,844	1.39	1.92	18.2	1.59	4.84	94
12-14	1,125	4,213	1.32	1.72	17.5	1.40	4.11	102
15-18	1,092	4,732	1.27	1.73	16.6	1.36	4.33	78
19-22	988	4,131	1.14	1.43	15.6	1.18	4.83	89
23-34	1,004	5,443	1.17	1.49	16.9	1.32	4.50	78
35-50	922	5,588	1.08	1.40	16.3	1.27	5.22	80
51-64	973	6,135	1.17	1.48	17.5	1.35	4.81	91
65-74	920	6,483	1.20	1.47	16.5	1.46	4.43	102
75 AND OVER	902	6,204	1.18	1.61	16.2	1.37	7.60	91
All Individuals	1,142	5,823	1.37	1.78	19.3	1.55	5.31	92

NOTE: Response rates for the NFCS 1987-88 were very low, approximately 38% at the household level and 31% at the individual level. Within these households, 81% of the eligible individuals provided at least one day of intake data. Users should balance their needs and tolerance of error against potential nonresponse bias in this dataset. Confirmatory data from other sources should be sought to support estimates based on NFCS 1987-88 data analysis.

SOURCE: Nationwide Food Consumption Survey, 1987-88.

TABLE 2A-1.--NUTRITIVE VALUE OF FOOD INTAKE
AVERAGE PER INDIVIDUAL PER DAY,1/ 1977-78

48 STATES, ALL URBANIZATIONS, ALL INCOMES, ALL RACES, ALL FOOD

SEX AND AGE (YEARS)	INDIVIDUALS	FOOD ENERGY	PROTEIN	FAT	CARBO-HYDRATE	CALCIUM	IRON	MAGNESIUM
	NUMBER	KCAL	G	G	G	MG	MG	MG
MALES AND FEMALES:								
UNDER 1	2/421	793	28.9	32.0	90.9	753	17.5	124
1-2	2/1,035	1,209	48.9	50.9	141.7	741	8.2	164
3-5	1,719	1,466	56.8	62.1	173.7	758	9.6	186
6-8	1,841	1,774	68.8	76.4	207.4	912	11.5	228
MALES:								
9-11	939	2,040	79.2	89.1	235.5	984	13.3	253
12-14	1,150	2,276	89.1	100.3	259.8	1,091	14.8	280
15-18	1,394	2,568	102.8	116.5	280.7	1,179	16.5	309
19-22	1,030	2,395	99.0	110.2	246.7	945	15.6	286
23-34	2,716	2,418	98.1	112.4	242.2	857	15.9	308
35-50	2,571	2,270	93.9	108.1	218.7	750	15.6	308
51-64	2,161	2,158	90.0	102.6	211.5	743	15.4	310
65-74	1,049	1,913	78.9	87.1	201.8	709	14.2	285
75 AND OVER	465	1,866	75.0	85.4	199.6	718	14.0	272
FEMALES:								
9-11	1,011	1,849	71.0	80.1	216.2	908	11.9	234
12-14	1,148	1,842	71.4	81.1	211.2	847	11.8	224
15-18	1,473	1,748	69.3	78.5	194.2	761	11.1	209
19-22	1,317	1,601	65.4	72.4	170.6	626	10.6	200
23-34	3,879	1,603	66.0	73.6	166.2	612	10.8	218
35-50	3,759	1,514	64.5	71.0	151.8	530	10.9	222
51-64	2,936	1,528	65.0	70.8	156.7	556	11.3	239
65-74	1,376	1,430	60.6	63.2	156.7	562	10.9	226
75 AND OVER	751	1,417	57.6	61.8	160.2	587	10.6	222
ALL INDIVIDUALS	2/36,142	1,826	74.3	83.1	193.5	743	12.6	246

Continued--

Source: United States Department of Agriculture, Human Nutrition Information Service, 1984. Nutrient Intakes: Individuals in 48 States, Year 1977-78: Nationwide Food Consumption Survey, Report No. I-2, Hyattsville, MD, U.S. Department of Agriculture.

TABLE 2A-1.--NUTRITIVE VALUE OF FOOD INTAKE
AVERAGE PER INDIVIDUAL PER DAY,1/ 1977-78

48 STATES, ALL URBANIZATIONS, ALL INCOMES, ALL RACES, ALL FOOD

SEX AND AGE (YEARS)	PHOSPHORUS	VITAMIN A VALUE	THIAMIN	RIBOFLAVIN	PREFORMED NIACIN	VITAMIN B6	VITAMIN B12	VITAMIN C
	MG	IU	MG	MG	MG	MG	MCG	MG
MALES AND FEMALES:								
UNDER 1	647	4,287	0.88	1.52	8.9	0.61	2.53	78
1-2	885	3,436	.91	1.47	10.5	.95	3.49	68
3-5	981	3,757	1.11	1.62	13.5	1.14	3.87	71
6-8	1,182	4,581	1.31	1.93	16.4	1.37	4.59	82
MALES:								
9-11	1,321	5,378	1.51	2.18	19.2	1.58	5.51	87
12-14	1,473	5,774	1.64	2.37	21.0	1.74	5.91	90
15-18	1,655	6,191	1.81	2.58	23.8	1.87	6.77	96
19-22	1,506	5,903	1.58	2.22	23.4	1.77	7.18	88
23-34	1,479	5,683	1.54	2.02	23.9	1.76	6.11	86
35-50	1,359	6,002	1.47	1.86	23.4	1.71	5.70	83
51-64	1,326	7,087	1.47	1.92	22.9	1.72	6.72	92
65-74	1,206	7,290	1.38	1.83	20.4	1.58	6.05	92
75 AND OVER	1,165	6,988	1.36	1.75	18.9	1.52	5.06	91
FEMALES:								
9-11	1,202	4,811	1.34	1.93	16.9	1.41	4.60	85
12-14	1,170	4,488	1.30	1.83	16.8	1.36	4.61	80
15-18	1,100	4,278	1.19	1.64	16.0	1.27	4.19	75
19-22	997	3,915	1.06	1.40	15.4	1.19	3.81	71
23-34	1,002	4,696	1.04	1.38	16.0	1.19	4.20	74
35-50	933	5,195	1.01	1.31	16.2	1.17	4.60	75
51-64	961	6,106	1.07	1.40	16.8	1.27	4.84	89
65-74	919	6,605	1.06	1.42	15.8	1.24	4.60	93
75 AND OVER	913	6,357	1.05	1.42	14.9	1.21	4.30	84
ALL INDIVIDUALS	1,153	5,388	1.26	1.72	18.2	1.40	5.02	82

1/ BASED ON 3 CONSECUTIVE DAYS OF DIETARY INTAKE.
2/ EXCLUDES BREAST-FED INFANTS.

SOURCE: USDA NATIONWIDE FOOD CONSUMPTION SURVEY 1977-78, 48 CONTERMINOUS STATES.

APPENDIX II-1: DESCRIPTION OF FEDERAL FOOD ASSISTANCE PROGRAMS

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE FOOD AND NUTRITION SERVICE

October 1991

The Food and Nutrition Service (FNS) was established August 8, 1969 to administer the food assistance programs of the U.S. Department of Agriculture. The agency's goals are to provide needy people with access to a more nutritious diet, to improve the eating habits of the nation's children, and to stabilize farm prices through the distribution of surplus foods.

FNS works in partnership with the states in all its programs. States determine most administrative details regarding distribution of food benefits and eligibility of participants, and FNS provides funding to cover most of the states' administrative costs.

Congress has appropriated $32.7 billion for FNS to operate the food assistance programs in Fiscal Year 1992. The agency spent $27.6 billion on the programs in FY 1991. By comparison, $1.1 billion was spent in 1969, the first year of the agency's operation.

FNS administers 13 programs:

Food Stamp Program

The FSP is the cornerstone of the USDA food assistance programs. Initiated as a pilot program in 1961 and made permanent in 1964, the program issues monthly allotments of coupons which are redeemable at retail food stores. Eligibility and allotments are based on household size and income, assets, housing costs, work requirements and other factors. The amount of benefits is based on the Thrifty Food Plan, a hypothetical market basket of foods for a nutritious diet, the cost of which is derived from a survey of actual food prices.

The federal government shares with the states the costs of administrative expenses (including certification of households, issuance of stamps, data processing and anti-fraud activities), and of state employment and training programs.

The program served an average of more than 22 million people each month in 1991. Average monthly benefits were more than $63 per person in FY 1991, and total cost of the program was more than $18 billion. For 1992, more than $22 billion has been appropriated.

Nutrition Assistance Program (Puerto Rico and the Northern Marianas)

The Food Stamp Program in Puerto Rico and the Northern Marianas was replaced in 1982 by a block grant program. The two territories now provide cash and coupons to participants rather than food stamps or food distribution. The grant can also be used to fund up to 50 percent of administrative expenses, or to fund special projects related to food production and distribution.

The amount of the Puerto Rico NAP block grant for 1992 is more than $1 billion, up from $974.2 million in 1991. For the Northern Marianas, funding has held steady at $3.7 million each year.

National School Lunch Program

The NSLP provides cash and commodity foods to non-profit food services in elementary and secondary schools and in residential child care centers. Low-income students may qualify to receive their meals free or at a reduced price, and cash payments are made to states on the basis of the number of meals served in the free, reduced-price or paid categories. Entitlement commodities are provided by law at a per-meal rate (currently 14 cents per meal). Additional, or bonus, commodities are provided as available through USDA's agricultural price support or surplus removal programs.

Participation in the program is over 24 million in more than 92,000 schools and residential institutions. About half of those children get their meals free or at a reduced price. The program is available to 98 percent of public school children, and to 90 percent of all school children.

Congress appropriated $3.4 billion for the school lunch program in 1991, and $3.6 billion in 1992.

School Breakfast Program

As in the school lunch program, low-income children may qualify to receive school breakfast free or at a reduced price, and states are reimbursed according to the number of meals served in each category. Additional funding may be available for "severe need" schools, where at least 40 percent of meals are served free or at reduced price.

School breakfast participation is around 4.4 million. The program is offered in some 42,000 schools and institutions. It is not as widely offered as the school lunch program, and is more likely to operate in schools where economic need is greater. A series of grants from USDA over the last two years have encouraged schools to start breakfast programs.

The appropriation for the School Breakfast program was $656 million in 1991, and almost $722 million was appropriated for 1992.

Child and Adult Care Food Program

This program provides cash and commodity assistance to child and adult care centers and family day care homes. At centers the eligibility and reimbursement criteria for free and reduced-price meals are the same as those for the National School Lunch and Breakfast Programs. At day care homes all meals are served free, but the reimbursements are lower and are limited to two meals and one snack per day. Average daily participation at child care homes and centers as of June 1991 was 1.5 million; participation at adult care centers was 33,000. The program's appropriation is $1.2 billion for 1992, up from $1 billion in 1991.

Summer Food Service Program

SFSP is designed to provide food service to children in needy areas -- where at least half the children come from families with incomes below 185 percent of poverty -- during summer vacation. All meals are served free, but are limited to lunch and either breakfast or a snack. The meal service must be sponsored by public or private non-profit school food authorities or residential camps, or by units of state and local government. Participation in 1991 was nearly 2 million. The 1992 appropriation for SFSP is $196 million, up from $180 million for 1991.

Special Supplemental Food Program for Women, Infants and Children (WIC)

WIC's goal is to improve the health of pregnant, breastfeeding and postpartum women, and infants and children up to 5 years old, by providing supplemental foods, nutrition education, and access to health services. Eligibility is determined by income (185 percent of poverty or below) and nutritional risk as determined by a health professional. Participants receive vouchers that can be redeemed at retail food stores for specified foods that research has shown are frequently lacking in the diet of low-income mothers and children. The program has been shown to be effective in improving the health of pregnant women, new mothers and their infants. A recent study showed that women who participated in the program during their pregnancies had lower Medicaid costs for themselves and their babies than did women who did not participate. Each dollar spent in prenatal WIC benefits was found to be more than offset by Medicaid savings during the first 60 days after birth.

WIC reaches 85 percent of eligible infants and pregnant women in the U.S. Average monthly WIC participation in 1991 was 4.8 million. President Bush in his 1992 budget request called for the largest increase for WIC ever sought by any President. Congress supported his request, appropriating $2.6 billion for the program for 1992, up from $2.4 billion in 1991.

Commodity Supplemental Food Program

A direct food distribution program with a target population similar to WIC, CSFP often operates in areas where there is no WIC program. If there is a local WIC program, however, recipients may not participate in both WIC and CSFP. As in WIC, food packages are tailored to the nutritional needs of participants. In addition to the regularly authorized commodities, participants may receive additional food from agricultural surpluses as a bonus. States may also serve elderly people through CSFP if they have caseload slots that are not being taken by women, infants and children.

Average monthly CSFP participation in FY 1991 was 289,726. Congress appropriated $90 million for CSFP in 1992; the 1991 figure was $81.9 million.

Special Milk Program

Expansion of the school lunch and breakfast programs, which include milk, has led to a substantial reduction in the SMP since its peak in the late 1960's. Participation is now restricted to schools, summer camps and child care institutions that have no other federal child nutrition program, or to kindergarten children who attend half-day sessions and have no access to meal programs provided by the schools. Low-income children may qualify to receive their milk free.

More than 152 million half-pints of milk were served in FY 1991. The program's appropriation is $23 million for 1992, the same as in 1991.

Food Distribution Program on Indian Reservations and the Trust Territories

Provides commodity foods to Native American families who live on or near Indian reservations, and to Pacific Islanders. Also known as the Needy Family Program, this is the oldest FNS program, going back to the Great Depression of the 1930's. It was the main form of food assistance until the Food Stamp Program was expanded in the early 1970's.

The program is administered by states and tribal organizations. Participants may choose from month to month whether they will participate in the Food Stamp Program or the food distribution program. Average monthly participation in FY 1991 was nearly 131,000. The 1992 appropriation is $81.9 million, compared to $78.2 million in 1991.

Nutrition Program for the Elderly

Provides cash and commodity foods for meals for senior citizens. Food is served in senior citizen centers or delivered by meals-on-wheels programs. Commodity assistance of 56.76 cents per meal is mandated by law, but state agencies may elect to take all or part of their subsidies in cash rather than commodities. The program served an average of 919,746 meals every day in Fiscal Year 1991. Congress appropriated $151.5 million for 1992; the 1991 appropriation was $149.9 million.

Commodity Distribution to Charitable Institutions

Commodities are provided to nonprofit, charitable institutions which serve meals to needy persons regularly. These include homes for the elderly, hospitals, soup kitchens, food banks, meals-on-wheels programs, and summer camps and orphanages that do not participate in any federal child nutrition program. More than $73 million worth of USDA commodities went to charitable institutions in FY 1991, plus another $32 million earmarked specifically for soup kitchens and food banks.

The Emergency Food Assistance Program

Formerly known as the Temporary Emergency Food Assistance Program, TEFAP was initiated by directive from President Reagan in 1981 with the goal of reducing inventories and storage costs of surplus commodities through distribution to needy households. Commodity supplies held in storage have been greatly reduced, and Congress appropriated $170 million to purchase additional food for TEFAP for 1991. The program's 1992 appropriation is $165 million. Total distribution under the program in 1991 was more than $180 million worth of food.

FNS participates in several national advisory councils dealing with its program areas:

National Advisory Council on Women, Infants and Children: The Council was mandated by Public Law 94-105, enacted October 1975. The purpose of the council is to make a continuing study of the operation of the Special Supplemental Food Program for Women, Infants and Children (WIC) and related programs such as the Commodity Supplemental Food Program (CSFP) to determine how the programs may be improved. The council must submit biennially to the President and Congress a written report of the results of its study, with recommendations for administrative and legislative changes as it deems appropriate.

National Advisory Council on Food Distribution: Established by the Commodity Distribution Reform Act of 1987, the council's purpose is to advise the Secretary on the distribution of donated commodities to recipient agencies, and on regulations and policy development on the specifications for commodities. It meets twice a year and provides an annual report to Congress, the House Committee on Education and Labor, the House Committee on Agriculture, and the Senate Committee on Agriculture.

FNS formerly participated in the **National Advisory Council on Child Nutrition,** which was eliminated by Congress in 1989 under Public Law 101-147.

Note: 1991 figures cited here are based on preliminary calculations.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE FOOD STAMP PROGRAM

October 1991

1. What is the Food Stamp Program?

Food coupons, or stamps, are used to supplement the food buying power of eligible low-income households. The program is administered nationally by the U.S. Department of Agriculture's Food and Nutrition Service (FNS) and locally by the State welfare agencies. The purpose of the program is to improve the levels of nutrition among low-income households and to strengthen the agricultural economy through normal channels of trade.

2. Who is eligible to receive food stamps?

The program provides monthly benefits to low-income households to help them purchase a nutritionally adequate diet. To qualify for the program, households must meet eligibility criteria and provide proof of their statements about household circumstances. U.S. citizens and aliens who by law are considered admitted for permanent residency may qualify.

To participate in the Food Stamp Program:

--Most able-bodied adult applicants must meet certain work requirements.

--All households may have $2,000 worth of countable resources, such as a bank account. Households may have $3,000 if at least one person is age 60 or older. Certain resources are not counted, such as a home and lot. Special procedures are used to determine the resource value of licensed vehicles.

--All household members must provide a Social Security number or apply for one;

--The gross monthly income of most households must be at or below 130 percent of the Federal poverty guidelines ($1,452 a month for a family of four) and their net income must be at or below 100 percent of the Federal poverty guidelines ($1,117 a month for a family of four). Households with an elderly or disabled member are subject only to the net income test. Gross income includes all cash payments to the household with the exception of a few specific types identified by law or regulation.

The maximum gross income eligibility standards effective October 1, 1991 to September 30, 1992 are:

GROSS MONTHLY INCOME ELIGIBILITY STANDARDS
(130% of Poverty Line)

HOUSEHOLD SIZE	48 STATES (1)	ALASKA	HAWAII
1	718	899	825
2	962	1,204	1,107
3	1,207	1,510	1,388
4	1,452	1,815	1,670
5	1,697	2,121	1,952
6	1,942	2,426	2,233
7	2,187	2,732	2,515
8	2,431	3,037	2,797
Each additional member	+245	+306	+282

1) Includes District of Columbia, Guam and Virgin Islands

3. How is net income determined?

Net monthly income is used to determine a household's benefit level. Food stamp net income is figured by adding all of a household's gross income, except that excluded by law, and then subtracting certain deductions:

--An earned-income deduction for working households equal to 20 percent of the combined earnings of household members;

--A standard deduction adjusted annually to reflect changes in the cost of living. The standard deduction is $122;

--A dependent care deduction (not to exceed $160 per month for each dependent) for the expenses involved in caring for children or other dependents while household members work or seek employment;

--An excess shelter expense deduction for those shelter costs (such as rent, mortgage payments, utility bills, property taxes, and insurance) that exceed 50 percent of the household's remaining income after all other deductions are taken. Most households have a shelter deduction cap of $194 a month. Households with an elderly (age 60 or older) or disabled member are exempted from this limit--they may subtract the full value of all shelter costs greater than 50 percent of their adjusted income.

--A special medical deduction is available to households with an elderly or disabled member. These households may deduct all medical costs exceeding $35 incurred by the elderly or disabled person. Medical expenses reimbursed by insurance or government programs are not deductible.

The net monthly income eligibility standards effective October 1, 1991 to September 30, 1992 are:

NET MONTHLY INCOME ELIGIBILITY STANDARDS
100% of Poverty line)

HOUSEHOLD SIZE	48 STATES (1)	ALASKA	HAWAII
1	552	691	635
2	740	926	851
3	929	1,161	1,068
4	1,117	1,396	1,285
5	1,305	1,631	1,501
6	1,494	1,866	1,718
7	1,682	2,101	1,935
8	1,870	2,336	2,151
Each additional member	+189	+235	+217

1) Includes District of Columbia, Guam and Virgin Islands

4. How many stamps are participants eligible to receive?

Households are issued an allotment of food stamps. The maximum household allotment is based on the Thrifty Food Plan for a family of four persons with a man and woman ages 20-50 and children 6-8 and 9-11 The allotment level is then adjusted for household size and economies of scale, increased by 3 percent, then rounded down. In order to obtain an individual household's allotment, 30 percent of the individual household's net income is subtracted from the maximum allotment for that household's size. The Thrifty Food Plan is a model diet plan required to feed a family of four persons.

The current maximum allotment levels in effect from October 1, 1991-September 30, 1992 are:

MAXIMUM ALLOTMENT LEVELS

HOUSEHOLD SIZE	ALLOTMENT LEVEL
1	$111
2	203
3	292
4	370
5	440
6	528
7	584
8	667
Each additional member	+83

There are separate, higher allotment levels for urban Alaska, rural Alaska, Hawaii, Guam, and the Virgin Islands. These separate allotment levels reflect higher food prices in those areas.
Households with no countable income receive the maximum allotment. For households that have countable income, benefits are reduced by 30 percent for each dollar of net income.

5. On average, how much help does the Food Stamp Program provide ?

The average monthly benefit per person was $59 in Fiscal Year 1990.
Preliminary figures for 1991 show that the average monthly benefit per person is $63.82.

6. What foods are eligible for purchase with Food Stamps?

Households can use food stamps to buy any food or food product for human consumption, and seeds and plants for use in home gardens to produce food.

Households CANNOT use food stamps to buy: 1) alcoholic beverages and tobacco; 2) hot foods ready to eat and food intended to be heated in the store; 3) lunch counter items or foods to be eaten in the store; 4) vitamins or medicines; 5) pet foods; and 6) any non-food items (except seeds and plants).

Food stamps cannot be exchanged for cash.

7. What are some of the major characteristics of Food Stamp households?

Based on a summer 1988 characteristics study:
-- 50.2 percent of all participants are children.
--8.1 percent of all participants are elderly.
--The average household size is 2.6 persons.
--The average gross monthly income per food stamp household is $433, or the annual equivalent of $5,196. The average net income is $242 a month -- $2,704 a year.
--Average countable assets per household are $92, but for households with elderly members the average is $229.
--About 4.3 percent of participants are employed full time (10.8 percent of non-elderly adult participants); 20.0 percent of households have earned income.
--Over 17.6 percent of non-elderly adult participants are registered for work through the Food Stamp Program; 23.5 percent are covered by the work requirements of other programs such as Aid to Families with Dependent Children and Unemployment Compensation Program. Most others are disabled or responsible for the care of a child or incapacitated person.

8. Who is required to work?

Physically and mentally fit food stamp recipients 16 to 60 years of age--with certain exceptions--are required to register for work, participate in an employment and training program if assigned, and accept suitable employment if it is offered.

Exceptions to the work requirement are:
--A person age 16 or 17 who is not a head of a household or who is attending school, or enrolled in an employment training program;
--Those who are subject to and complying with the work requirements of Title IV of the Social Security Act;
--A parent or other household member responsible for the care of a child under 6 or someone who is incapacitated;

--A person receiving unemployment compensation or an applicant for unemployment compensation who is complying with the local employment office's work requirements;
--A regular participant in a drug addiction or alcoholic treatment and rehabilitation program;
--Those employed at least 30 hours per week or receiving weekly wages equal to the Federal minimum wage multiplied by 30 hours;
--Students in compliance with food stamp eligibility rules which apply to them.

Because of these exceptions, only about 8 percent of all food stamp recipients are registered for work.

9. Does USDA have employment and training programs?

Legislation passed in 1985 required States to implement an employment and training (E&T) program for food stamp work registrants and selected volunteers. The program aims to involve these recipients in work-related activities which will lead to paid employment and a decreased dependency on assistance programs. USDA provides financial support to each State to operate its E&T program. This support is in three forms:

--A 100 percent grant based on the State's relative percentage of the nationwide caseload, the number of work registrants, and on E&T performance by the State;

--A 50 percent match of State funds for additional program costs;

--50 percent of State reimbursements for transportation and other work, training, or education-related expenses up to a maximum of $25 per person per month, and for dependent care costs up to a maximum of $160 per dependent per month.

1991 figures are still incomplete, but in FY 1990 USDA distributed $75 million in 100 percent funds and $45 million in 50 percent matching funds. Approximately 1.3 million food stamp recipients participated in E&T in FY 1990.

10. How much error exists in the current program?

A quality control (QC) system monitors the accuracy of the food stamp eligibility and benefit determinations made by the States. States that fail to meet a standard of accuracy in issuing their food stamp benefits are liable for the funds they issue in error. The Hunger Prevention Act of 1988 revised the QC liability system. Under the new system, the Secretary publishes an annual national performance measure (a weighted sum of all States' error rates). This national performance measure is used to establish a payment error tolerance level. State agencies that exceed the tolerance level must pay USDA an amount based on the difference between the State's error rate and the tolerance level, multiplied by the state's annual issuance. The error rate is based on issuances to ineligibles, overissuances and underissuances.

11. How much has the program cost over the years?

The program began as a pilot project in 1961 and was authorized as a permanent program to operate at State option in 1964. Expansion of the program occurred most dramatically after 1974 when Congress required all States to offer food stamps to low-income households. Program growth has continued since then and participation peaks in periods of high unemployment, inflation and recession.

Food Program Facts / The Food Stamp Program

FOOD STAMP PROGRAM GROWTH [1)]

Fiscal Year	Persons* (Mil.)	Coupon Val. (Bil.)	Monthly Avg. per Person	Total Fed. Costs (Bil)
1971	9.4	$1.5	$ 13.55	$ 1.6
1972	11.1	1.8	13.48	1.9
1973	12.2	2.1	14.60	2.2
1974	12.9	2.7	17.61	2.8
1975	17.1	4.4	21.11	4.4
1976	18.5	5.3	23.55	5.1
1977	17.1	5.1	23.81	4.8
1978	16.0	5.1	25.73	4.8
1979	17.7	6.5	30.04	6.2
1980	21.1	8.7	34.23	8.4
1981	22.4	10.6	39.40	10.3
1982	21.7	10.2	39.05	10.1
1983	21.6	11.2	42.98	11.8
1984	20.9	10.7	42.74	11.6
1985	19.9	10.8	44.99	11.7
1986	19.4	10.6	45.49	11.6
1987	19.1	10.5	45.78	11.6
1988	18.6	11.1	49.83	12.4
1989	18.8	11.7	51.87	12.9
1990	19.9	14.1	59.00	15.4
1991[2]	22.4	14.3	63.82	15.3

1) Excludes Puerto Rico
2) 1991 figures as of July
*Average monthly participation

FOOD STAMP TIMELINE

Today's Food Stamp Program stems from the food assistance programs of the Great Depression--a time when farmers were burdened with foods they could not sell, while thousands stood in bread lines, waiting for something to eat. To help both farmers and consumers, the Federal government began distributing surplus foods to the Nation's hungry citizens.

The 1930's -- By the late 1930's, the Department was using an alternative approach known as the Food Stamp Plan. Under the plan, families exchanged money for stamps of equal value to purchase regular food items. They also received additional stamps to buy designated surplus foods at retail stores. First used in Rochester, NY, the Food Stamp Plan later expanded to 1,471 counties and 88 cities.

1943 -- The Food Stamp Plan ended in 1943 as World War II reduced food surpluses and unemployment. At its peak, however, the program served well over 3 million people a month.

1950 -- Because of the depressed economy in the mid 1950's some areas decided to reestablish systems for distributing surplus foods to needy people, and interest in the Food Stamp Program revived.

Food Program Facts / The Food Stamp Program

1961 – In 1961, USDA was directed by the President to establish a pilot Food Stamp Program. By August 1964, the pilot program was operating in 43 project areas and reaching over 350,000 people.

1964 – The Food Stamp Act of 1964 established the Food Stamp Program as a permanent program and authorized expansion to States wishing to take part. During the following years, USDA undertook a campaign to bring some form of food assistance--direct food distribution or food stamps--to every county in the country.

At the same time, public awareness and concern about the food problems of the poor focused national attention on the food assistance programs. This concern culminated in a national commitment to end poverty-related hunger and malnutrition.

1969 – In 1969, Congress greatly increased appropriations
available to the Food Stamp Program. USDA continued to encourage program expansion, and by the end of 1970, only 39 areas were without either food distribution or food stamps.

1971 – In 1971, Congress established uniform national standards of eligibility and required all States to inform low-income people about the availability of food stamps.

1974 – In 1974, the Food Stamp Program finally went nationwide. P.L. 93-86 (August 10, 1973) mandated statewide operation of the FSP if any area of the State operated the program. Such States were to implement statewide operation by July 1, 1974.

1977 – The Food Stamp Act of 1977 eliminated the purchase requirement, lowered net income limits to the poverty line, replaced most itemized deductions with a standard deduction, and tightened program requirements in a number of areas pertaining to students, aliens and fraudulent households.

1985 – The Food Security Act made households in which all members receive AFDC, SSI, or other Social Security disability payments categorically eligible for the FSP through 1989, improved services to farm self- employed households, uncoupled the child care and shelter deductions and raised the deduction limits, raised household asset limits, improved services to the homeless, and required an Employment and Training Program by April 1, 1987 among a number of other provisions.

1986 – Services to the homeless were improved through provisions of the Omnibus Drug Enforcement, Education and Control Act (October 27, 1986). These services were further refined through the Stewart B. McKinney Homeless Assistance Act in July of the following year.

1988 – The Hunger Prevention Act of 1988 (P.L. 100-435, September 19, 1988) raised maximum program allotments for FY 1989 and subsequent years, continued the categorical eligibility provisions of the Food Security Act of 1985, improved services to program applicants, refined the program's Employment and Training Program and quality control system, and permitted Federal funding of State outreach activities among other program refinements.

1990–The Mickey Leland Memorial Domestic Hunger Relief Act (P.L.101-624, November 28, 1990) reauthorized the Program through 1995, imposed new and increased penalties for fraud and trafficking, provided for the use of electronic benefit transfer as a means of issuing benefits, provided new assistance to the homeless, forgave federal quality control fiscal claims against States from 1983 through 1985, and laid the groundwork for future coordination and simplification with other welfare programs by establishing an advisory committee.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

The Nutrition Assistance Programs in Puerto Rico and the Northern Marianas

October 1991

1. What is the Nutrition Assistance Program in Puerto Rico?

The program provides block grant funds to Puerto Rico. These funds are then used by the Commonwealth to give cash to the needy to buy food. The grant can also be used to fund up to 50 percent of administrative expenses, or to fund special projects related to food production and distribution.

As required by the Omnibus Budget Reconciliation Act of 1981, the Nutrition Assistance Program replaced the Food Stamp Program in Puerto Rico in 1982.

2. How much money is given to Puerto Rico and how do they use it?

Congress appropriated $1.013 billion for Puerto Rico for Fiscal year 1992, the same as in 1991. Figures for 1991 are still incomplete, but for Fiscal Year 1990, $936.75 million in grant funds were provided to Puerto Rico. The program served an average of 1.48 million persons per month in 1990, and total monthly benefit costs averaged $75,015,750, or about $50.69 per person. Monthly administrative costs were $26.58 million, or $1.50 per person, for a total monthly program cost per person of $52.19.

3. What is the history of the Nutrition Assistance Program in Puerto Rico?

Prior to 1974 USDA distributed agricultural commodities directly to low-income residents of Puerto Rico through the Family Food Distribution Program.

From 1974 to 1982 Puerto Rico participated in the Food Stamp Program. The program operated similarly there to the program in the mainland with a few exceptions. The shelter and dependent care deductions for Puerto Rico were lower to account for the differences in the cost of living. USDA also used a special version of the Thrifty Food Plan tailored to food preferences and costs in Puerto Rico. The cost of this plan was usually less than the cost of the plan used in the States.

By 1981, the last year that the Food Stamp Program operated in Puerto Rico, 1.8 million people--56 percent of the Commonwealth's population--participated in the program. Food stamp benefits comprised 8 to 10 percent of Puerto Rico's income. Eight percent of the total Federal program expenditures for food stamps were spent in the Commonwealth--more than any of the fifty States.

The legislation to create the Nutrition Assistance Program developed out of recognition that Puerto Rico's food stamp program had grown rapidly and alternative approaches might better serve the Commonwealth. Based on 1980 data, projections for Fiscal Year 1982 estimated that food stamp participation in Puerto Rico would account for 10 percent of total program expenditures and exceed $1 billion. Puerto Rico had one of the highest food stamp error rates in the program: 14 percent of

all benefits were paid out in error, and the illegal sale of food stamps for cash appeared to be a significant and widespread problem.
Congress was concerned about how the Food Stamp Program had changed the economy of Puerto Rico. Congressional committees heard testimony that economic dependency on food stamps was increasing, while fewer people were working in agriculture, using less land for farming, and producing fewer crops.

Since Puerto Rico has been under the Nutrition Assistance Program, it has used some of its grant funds for special projects to strengthen agricultural production, including an initiative to eradicate cattle ticks.

4. What is the Nutrition Assistance Program in the Northern Mariana Islands?

The program provides annually $3.7 million in block grant funds to the Commonwealth of the Northern Mariana Islands for food assistance to the needy. These monies consist in part of unexpended funds from prior years. The $3.7 million grant has been unchanged since the Nutrition Assistance Program began in 1982.

The block grant is based on regulations implemented through a Memorandum of Understanding that is revised every year. Like the Food Stamp Program in the fifty States, the Northern Marianas uses food coupons. However, it prints its own, earmarking 25 percent of them for products produced in the Northern Marianas.

5. What is the history of the Nutrition Assistance Program in the Northern Marianas

There were several key pieces of legislation that led to the establishment of the block grant in the Northern Marianas.

P.L. 94-241, passed in 1976, provided the Northern Marianas with Commonwealth status. As a result, it became eligible for the financial assistance programs that applied to Guam.

In 1978, P.L. 95-348 authorized the Secretary of Agriculture to implement a Food Stamp Program in the Northern Marianas. However, this authority expired in 1981 before a program was implemented.

P.L. 96-597 was then approved in 1980, authorizing the Secretary to extend programs administered by USDA to various territories. It also gave the Secretary the authority to waive or modify the requirements of those programs.

The preamble of the final rule implementing the block grant in the Northern Marianas cites both P.L. 94-241 and P.L. 96-597 as the underlying authority.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE FOOD DISTRIBUTION PROGRAM ON INDIAN RESERVATIONS (FDPIR)

October 1991

1. What is the Food Distribution Program on Indian Reservations (FDPIR)?

This program provides monthly food packages to Indians living on or near a reservation. The program is administered at the Federal level by the Food and Nutrition Service (FNS), an agency of the U.S. Department of Agriculture. State agencies are responsible for all aspects of program operations including storage and distribution, certification, and nutrition education. Households are certified based on income, resources, and nonfinancial criteria. They can be certified as eligible for participation for a period of 1 to 12 months, depending on the stability of the household's circumstances.

2. Do the foods USDA provides accommodate any special health needs?

Yes, the foods do accommodate special health needs Native Americans may have. The foods which are included in the current food packages were recommended by a 1986 Food and Nutrition Service (FNS) task force that explored ways to modify food packages to better meet the distinct health needs and preferences of the Indian community. The goal of the FNS task force was not only to improve selections of donated foods, but to encourage the use of commodities to achieve a healthful diet. These issues are important to the Indian community because poor nutrition is directly related to leading causes of ill health, such as heart disease, diabetes, obesity and alcoholism.

For instance, the levels of fat and sugar in the food package were decreased by adjusting the amounts and choices of the food products. Also, the nutrient and energy contents of the food package have been increased.

In May of 1990, FNS released a new recipe book, Quick & Easy Commodity Recipes for the Food Distribution Program on Indian Reservations. The book was developed as part of a 5-year nutrition education plan to help primarily Native American participants of the FDPIR program make more nutritious use of the USDA commodity foods they receive in their monthly food package.

3. How are the foods chosen and included in the food package?

Before an item can be included in the Food Distribution Program on Indian Reservations monthly food package, USDA:

--looks at the overall nutrient content of the package compared to the dietary guidelines;

--looks at the household food preferences and acceptability on behalf of the recipients;

--looks at the overall cost of the package to ensure that it is still within the appropriate limits.

4. What are the eligibility requirements?

The household must be low-income, have assets within specified limits, and live on an Indian reservation. Low-income Indian households living near a reservation can also qualify for benefits. FDPIR uses the Food Stamp Program's net monthly income standards, plus the Food Stamp Program's standard deduction, to determine net income. The eligibility standards are adjusted annually based on Food Stamp Program changes.

FOOD DISTRIBUTION PROGRAM ON INDIAN RESERVATIONS
NET MONTHLY INCOME STANDARDS
(100% of Poverty Line)

Household Size	Income Limit
1	$ 674
2	862
3	1,051
4	1,239
5	1,427
6	1,616
7	1,804
8	1,992

Each additional member + $189

5. What does the average food package contain?

USDA donates a variety of foods to help participants maintain a healthy diet. These commodities include canned meats; vegetables, fruits and juices; dried beans; peanuts or peanut butter, milk and cheese, pasta, flour or grains, corn syrup or honey; and shortening.

6. What are the average monthly benefits?

Each program recipient receives a monthly food package that weighs 50 to 75 pounds and contains a variety of foods from the four basic food groups. This food package is issued in accordance with the Food Distribution Guide Rate established by FNS. The value of the monthly food package for FY 1992 is $37.85.

7. How often do State agencies/participants get food and from where?

The commodities in the food package are either obtained through price-support activities and donated to FDPIR or purchased specifically for the program with appropriated funds. State agencies order commodities based on their current caseload and the availability of commodities. Commodities can be ordered by a State agency as a direct order (i.e., food is shipped from the vendor directly to the State agency) or through the Department's central supply (i.e., food is shipped from Inland Center in Kansas City, or from the Exeter, California or Kent, Washington warehouses to the State agency). Depending on the State agency's circumstances, commodities can be delivered by the Department either monthly or quarterly. State agencies are responsible for maintaining sufficient inventory levels at all warehouses.

Households or authorized representatives are issued the appropriate household size food package from State agency inventories. Distribution of commodities to households is done by using one of the following methods: (1) manual distribution; (2) over-the-counter distribution; or (3) tailgate distribution from the back of trucks.

8. How many people participate in the program and what does it cost?

The average monthly participation for Fiscal Year 1991 was 128,000. Preliminary figures show the cost of the program for FY 1991 was approximately $60 million.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE NATIONAL SCHOOL LUNCH PROGRAM

October 1991

1. What is the National School Lunch Program?

The National School Lunch Program (NSLP) is a federally assisted meal program which provides balanced, low cost or free lunches to about 24 million children each school day. The lunch program is usually administered by the state education agency, which operates the program through agreements with local schools. At the Federal level, the program is administered by the Food and Nutrition Service, an agency of the U.S. Department of Agriculture.

2. How does the program work?

Schools that choose to take part in the lunch program get cash subsidies and donated commodities from the U.S. Department of Agriculture. In return, they must serve lunches which meet the federal minimum meal pattern requirements, and they must offer free or reduced-price lunches to eligible children. Children from families with incomes at or below 130 percent of the poverty level ($16,510 for a family of four) are eligible for free meals. Children between 130 percent and 185 percent of the poverty level ($23,495 for a family of four) are eligible for reduced-price meals. Children from families over 185 percent of poverty pay a regular price for their subsidized meal.

Following are the annual income guidelines for the continental U.S. effective from July 1, 1990 to June 30, 1991.

HOUSEHOLD SIZE	POVERTY GUIDELINE (100% POVERTY)	FREE MEAL ELIGIBILITY (130% POVERTY)	REDUCED-PRICE ELIGIBILITY (185% POVERTY)
1	6,220	8,606	12,247
2	8,880	11,544	16,428
3	11,140	14,482	20,609
4	13,400	17,420	24,790
5	15,660	20,358	28,971
6	17,920	23,296	33,152
7	20,180	26,234	37,333
8	22,440	29,172	41,514
For each additional family member add:			
	+2,260	+2,938	+4,181

3. How many schools take part?

About 92,500 schools take part in the program. Public or nonprofit private schools of high school grade or under and residential child care institutions are eligible to take part. The program is available in 95 percent of all public schools--representing 98 percent of all public school children. About 59 percent of all public school children participate in the lunch program.

4. What are the funding and participation levels for the NSLP?

FISCAL YEAR	FUNDING (BILLIONS)	ADP[1] (MILLIONS)	% F/RP[2]
1980	3.184	26.6	45.1
1981	3.276	25.8	48.6
1982	2.951	22.9	50.2
1983	3.175	23.0	51.7
1984	3.328	23.4	51.0
1985	3.390	23.6	49.1
1986	3.551	23.7	49.1
1987	3.712	23.9	48.6
1988	3.723	24.2	47.4
1989	3.771	24.1	47.2
1990	3.926	24.1	48.2
1991[3]	4.253	24.6	50.3

Funding includes entitlement and bonus commodities.
1/ Average Daily Participation
2 /Free/Reduced Price
3 /Preliminary figures

For Fiscal Year 1992, Congress has appropriated $3.6 billion for the National School Lunch Program.

5. What is the federal reimbursement to schools for each meal served?

FREE*	REDUCED-PRICE*	PAID*
1.8025	1.4025	0.30

*Each reimbursement figure includes 14.00 cents per meal in donated commodities; the rest in cash.
These rates are effective from July 1, 1991 to June 30, 1992.

6. What types of foods do schools get from USDA?

USDA provides schools in the program with more than 60 different kinds of food, including meats, canned and frozen fruits and vegetables, fruit juices, vegetable shortening, peanut products, vegetable oil, and flour and other grain products. The variety of commodities schools can get from USDA depends on quantities available and market prices.

7. What additional commodities can schools get from USDA?

Schools are entitled by law to a specified amount of commodity foods, called "entitlement" foods, for each meal they serve. In addition to the per-meal level of commodity assistance, schools can get certain additional price support commodities as needed, if they can be used without waste. These foods are known as "bonus" commodities. This year USDA is offering schools butter, cornmeal and several other types of food through the bonus commodity program.

8. What are the minimum meal pattern requirements for school lunches?

Schools must offer students specific minimum amounts of five food items--meat or meat alternate, bread or bread alternate, milk, and two fruits and/or vegetables--in order to qualify for federal reimbursements. For example, the following minimum amounts for each category meet the meal pattern requirements for all lunches:

FOOD ITEM	AMOUNT
Meat or meat alternate	2 ounces
Vegetable and/or fruit	3/4 cup
Bread or bread alternate	8 servings per week
Milk	8 fluid ounces

9. What's new with school lunch?

One of the main focuses is on serving more nutritious, healthier foods. USDA has been working for several years to reduce the amount of sugar, salt and fat in school lunch. Ground beef provided to the program has less fat, and fruits and vegetables are processed with less sugar and salt. The availability of low-fat products such as fish, ground turkey and part-skim mozzarella cheese has been extended. More whole-grain products have been included. New recipes were provided that emphasized reduction of sugar, salt and fat. Deep frying is discouraged, and more foods are now oven baked. Tropical oils and animal fats have been eliminated.

School lunch history

1932--Some school lunch programs received federal loans and agricultural surpluses. Legislation in 1935 authorized the U.S. Department of Agriculture to purchase surplus farm commodities and distribute them to the school lunch program. By 1939, 900,000 children in 14,000 schools participated in the program. During the late 1930's, the Works Progress Administration (WPA) provided labor for cooking and serving lunches.

1946--The National School Lunch Act was enacted, permanently authorizing the lunch program, establishing a basic meal pattern requirement and requiring schools to serve lunches free or at reduced price to children in need.

1949--Commodity assistance for the lunch program authorized to supplement price support and surplus removal programs.
1962--Funds for free and reduced-price lunches first authorized for schools.

1970--Secretary of Agriculture authorized to set uniform national income poverty guidelines for free and reduced-price eligibility.

Food Program Facts / School Lunch Program

1975--Offer versus serve mandated in high schools.

1977--Offer versus serve made a local option in junior highs and middle schools.

1981--P.L. 97-35 excluded high-tuition private schools from the program, extended offer versus serve as a local option for elementary schools, reduced national average payments for lunches, and tightened income eligibility guidelines for free and reduced-price meals.

1987--P.L. 100-71 eliminated the tuition limitation on private schools.

1989--P.L. 101-147 authorized reimbursement for supplements served in after-school-hours care programs operated by schools participating in The Child and Adult Care Food Program as of May 15, 1989; simplified applications process for free and reduced price meals; authorized local schools to certify children for free meals based on direct contact with Food Stamp/AFDC offices; directed The Department to develop a certified system of Federal/State reviews of local schools; and authorized demonstration projects to test alternatives to traditional meal counting and claiming procedures.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE SCHOOL BREAKFAST PROGRAM

October 1991

1. What is the School Breakfast Program?

The School Breakfast Program provides assistance to States to initiate, maintain or expand non-profit breakfast programs in eligible schools and residential child care institutions. In Fiscal Year 1991, the program operated in approximately 46,000 schools and institutions and served a daily average of 4.1 million children. The program is administered at the Federal level by the Food and Nutrition Service (FNS), an agency of the U.S. Department of Agriculture. State education agencies and local school food authorities administer the program at the local level.

2. What schools and institutions are eligible to participate?

Public or nonprofit private elementary, junior high, or high schools are eligible. Also eligible are public or private nonprofit licensed residential child care institutions. Schools and institutions wishing to join the program must agree to serve breakfasts that meet Federal nutrition standards, and to provide free and reduced-price breakfasts to eligible children.

3. Which children get free or reduced-price breakfasts?

Any child at a participating school may purchase a meal through the School Breakfast Program. By law, any child from a family meeting criteria for eligibility, based on family size and income, may receive a free or reduced-price breakfast. Children from families with incomes at or below 130 percent of the poverty level ($17,420 for a family of four) are eligible for free meals. Children between 130 percent and 185 percent of the poverty level ($24,790 for a family of four) are eligible for reduced-price meals. Children from families over 185 percent of poverty pay a regular price for their subsidized meals.

Following are the annual income guidelines for the continental U.S., effective from July 1, 1991 to June 30, 1992:

HOUSEHOLD SIZE	POVERTY GUIDELINE (100% POVERTY)	FREE MEAL ELIGIBILITY (130% POVERTY)	REDUCED-PRICE ELIGIBILITY (185% POVERTY)
1	6,220	8,606	12,247
2	8,880	11,544	16,428
3	11,140	14,482	20,609
4	13,400	17,420	24,790
5	15,660	20,358	28,971
6	17,920	23,296	33,152
7	20,180	26,234	37,333
8	22,440	29,172	41,514

For each additional family member add:

+2,260 +2,938 +4,181

4. What is a "severe need" school?

Individual schols within a school food authority are eligible for severe-need funding if 40 percent or more of their lunches were served free or at a reduced priceduring the second preceding year, and if preparation costs exceed the regular breakfast reimbursement. "Severe need" reimbursements are available only for free and reduced-price breakfasts. Currently, nearly 60 percent of the breakfasts served in participating schools receive the severe-need subsidy.

5. What is the Federal reimbursement?

Under Federal law, schools may not charge students who qualify for free breakfasts. It is literally meant to be "free" to the student. The 1991-92 school year Federal reimbursement rate is 92.75 cents per meal for free breakfasts, 62.75 cents for reduced-price breakfasts, and 18.50 cents for paid breakfasts. For schools in "severe need" the payments are 110.25 cents for free breakfasts, 80.25 cents for reduced-price breakfasts, and 18.50 cents for paid breakfasts. There is no limit placed on the amount a school may charge for breakfasts served to paying students -- those from families with incomes above 185 percent of poverty.

School Breakfast Program -- Funding and Participation
(in millions)

	Average Daily Participation				
FISCAL YEAR	TOTAL	FREE	REDUCED-PRICE	PAID	PROGRAM COST
1980	3.6	2.79	.252	.557	287.8
1981	3.8	3.05	.250	.509	331.7
1982	3.32	2.80	.162	.364	317.3
1983	3.36	2.87	.148	.338	343.8
1984	3.43	2.91	.150	.366	364.0
1985	3.43	2.88	.159	.400	379.3
1986	3.50	2.93	.161	.407	406.3
1987	3.61	3.01	.171	.430	446.9
1988	3.69	3.03	.180	.471	483.7
1989	3.87	3.15	.201	.514	513.2
1990	4.08	3.30	.220	.553	589.1
1991*	4.43	3.60	.256	.575	683.2

*Preliminary figures

Food Program Facts / School Breakfast Program

History of the School Breakfast Program

1966--The School Breakfast Program was established under the Child Nutrition Act of 1966, Public Law 89-642, as a 2-year pilot project. First consideration was for schools in poor areas and areas where children had to travel a long distance to school.

1968--In the 1968 amendments, Public Law 90-302, the program authority was extended through fiscal year 1971.

1971--Public Law 92-32 extended the program through fiscal year 1973, allowed the Secretary of Agriculture to pay 100 percent of the operating costs of a program in cases of severe need, and provided that eligibility for free and reduced-price breakfasts was to be based on the same income eligibility guidelines as used in the school lunch program.

1975--Amendments to the Child Nutrition Act of 1966, Public Law 94-105, made the School Breakfast Program a permanent program.

1978--Amendments, Public Law 95-627, included provisions to encourage expansion of the breakfast program by providing additional financial assistance and food service equipment to local schools initiating breakfast programs.

1981--Under the Omnibus Reconciliation Act of 1981, reimbursements were reduced for reduced-price and paid categories in the breakfast program. No changes were made in the reimbursements for free breakfasts. Reimbursement rates were to be adjusted annually rather than semi-annually, and severe need assistance was restricted to schools in which 40 percent or more of school lunches are served free and at reduced price. Private schools with tuitions of $1,500 or more were not permitted to participate.

1986--The Child Nutrition Amendments of 1986 increased reimbursements by 6 cents (3 cents in cash and 3 cents in bonus commodities) and extended the option of offer versus serve to the program. The legislation also requires a review and revision of breakfast nutritional requirements.

1987--Tuition limit for private schools eliminated.

1988--P.L. 100-435 added an additional 3 cents for each breakfast served, effective July 1, 1989.

1989--P.L. 101-147 mandated State agency outreach efforts to make local school boards aware of the program . Also established a series of grants to State education agencies to help fund start-up costs for school breakfast programs.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE CHILD AND ADULT CARE FOOD PROGRAM

October 1991

1. What is the Child and Adult Care Food Program?

The Child and Adult Care Food Program (CACFP) provides Federal funds and USDA-donated foods to nonresidential child care and adult day care facilities to serve nutritious meals and snacks to participants. Federal funds come in the form of reimbursements to participating institutions for meals served under the program. CACFP generally operates in child care centers, outside-school-hours care centers, family day care homes, and certain adult day-care centers. The program was formerly known as the Child Care Food Program; the name was changed In 1989 to reflect the addition of an adult care component.

CACFP is the fastest-growing of USDA's food assistance programs. Funding has increased steadily since 1989, with 1.6 million children expected to be served in 1991 at a cost of nearly $1 billion.

2. What types of institutions provide benefits?

(a) Child Care Centers - Eligible institutions include licensed or approved nonresidential, public, or private nonprofit child-care centers, and for-profit child-care centers that receive compensation for child care under Title XX of the Social Security Act for at least 25 percent of the children enrolled. Head Start centers, settlement houses, and neighborhood centers are also eligible institutions.

Reimbursement rates for meals for child care centers are based on the family income of the participating child and fall into one of the following three categories:
(1) Free - for those children from families with income at or below 130 percent of the poverty level; (2) Reduced price - for children from families with income above 130 percent but at or below 185 percent of the poverty level; (3) Paid - for children from families with income above 185 percent of the poverty level.

(b) Family Day Care Homes - Generally, care is provided in a private home for a small group of children. There are no income criteria for the participating children, except for the children of the provider, who may only participate if household income is less than 185 percent of poverty. Meals are reimbursed at a standardized rate slightly lower than the free rate for child-care centers.

Each family day care home is administered by a sponsoring organization which is responsible for maintaining Federal and State regulations and preparing a monthly consolidated food reimbursement claim to the State administering office for one or more homes it administers. A separate reimbursement payment is made to sponsors for administrative expenses.

(c) Adult Day Care Centers - Day care centers for functionally impaired adults which are public agencies, or private nonprofit organizations, or for-profit centers that receive compensation under Title XIX or XX of the Social Security Act for 25 percent or more of the enrolled adults, may participate and receive cash and commodity assistance under the CACFP. These centers must be licensed or approved by Federal, State, or local authorities to provide services to the chronically impaired, to dis-

abled adults 18 years of age or older, or to persons 60 years of age or older in a group setting outside their home on less than a 24-hour basis. These agencies must maintain professional management responsibilities for all services.
Reimbursement rates and free and reduced-price eligibility for adult day care centers are the same as those for child care centers.

3. What role does the State play?

The States may set licensing requirements for child and adult care centers and family day care homes. The State department of education, an alternate state agency, or the USDA regional office is the administering agent to the centers and sponsors of homes. As an administering agent, the State reviews and monitors the CACFP within the State and brings about corrective action in instances where FNS regulations are not being followed.

4. What are the meal reimbursement rates?

For the period of July 1, 1991 through June 30, 1992, the reimbursements for qualifying meals served are as follows:

Child and Adult Day Care Centers (in cents)*

	Free	Reduced-price	Paid
Breakfast	92.75	62.75	18.50
Lunch/supper	166.25	126.25	16.00
Supplement (snack)	45.75	22.75	4.25

Family Day Care Homes (in cents)

Breakfast 78.50

Lunch/supper 142.25

Supplement (snack) 42.50

*Higher rates apply in Alaska and Hawaii.

*These rates do not include the value of commodities (or cash-in-lieu of commodities) which institutions receive as additional assistance for each lunch or supper served to program participants.

5. What are the per-home administrative rates provided to family day-care home sponsors each month?

Family day-care home sponsors receive reimbursement for their administrative costs as well as for meals. The administrative rates per home per month are*:

1 - 50 homes: $63
51 - 200 homes: $48
201 - 1,000 homes: $38
Each home over 1,000: $33

* Higher rates apply in Alaska and Hawaii

6. What is the cost of the Child and Adult Care Food Program?

The actual cost of the Child and Adult Care Food Program is:

FISCAL YEAR	DOLLAR VALUE* (millions)
1981	$318.6
1982	308.6
1983	356.1
1984	407.1
1985	453.5
1986	495.9
1987	547.9
1988	620.0
1989	696.5
1990	803.7
1991	982.4

*Includes donated commodities and cash-in-lieu of donated commodities.

Legislative History of the Child and Adult Care Food Program

May 1968 -- P.L. 90-302 established the Special Food Service Program for Children (SFSPFC), a 3-year pilot program, the year-round component of which was the forerunner of the Child Care Food Program. The program was to be operated year-round by day-care centers in areas in which poor economic conditions existed or in which there were high concentrations of working mothers. Meals were required to meet minimum nutritional standards and to be served at no cost or reduced cost to children unable to pay the full price. The Secretary of Agriculture was authorized to donate surplus and price-supported commodities for program use.

September 1972 -- P.L. 92-433 extended the SFSPFC authority through Fiscal Year 1975.

November 1975 -- P.L. 94-105, established and authorized for 3 years the separate Child Care Food Program (CCFP), and expanded eligibility to include any public or private nonprofit organization providing nonresidential child care, and specifically included family day care and Head Start Programs.

November 1978 -- P.L. 95-627 permanently authorized the CCFP. Major revisions mandated by this law included such changes as availability of advance payments to all participating institutions and start-up payments to family day-care home sponsors; a broader definition of children to include certain handicapped persons over 18; separate administrative rates for sponsors of homes; and expansion of eligible institutions to include programs developed to provide day care outside of school hours.

December 1980 -- P.L. 96-499 allowed for-profit child care sponsors to participate if they received funds for 25 percent or more of the enrollees under Title XX of the Social Security Act.

August 1981 -- P.L. 97-35 required that the age limit of eligible children be reduced to 12 years, except migrants and handicapped; limited meals to two meals and one snack in both child-care centers and day-care homes; established that meals served to children of day-care home providers be reimbursed only if the family is eligible for free or reduced-price meals; and required the Social Security numbers of all adult household members be on all family-size and income applications.

Food Program Facts / Child and Adult Care Program

November 1986 – P.L. 99-661 allowed child care facilities that are housed in schools to use the facilities, equipment and personnel support for elderly feeding programs; allowed state agencies to refuse to grant to institutions appeal actions as a result of federal audits; and increased the breakfast rate by 3 cents.

November 1987 -- P.L. 100-175, the Older Americans Act (OAA) Amendment of 1987, amended the National School Lunch Act to allow participation in the Child Care Food Program by certain adult day-care centers.

September 1988 -- P.L. 100-435 provided an extra reimbursable meal or snack (three meals and one snack or two meals and two snacks) under the CCFP to eligible children maintained in child care centers for 8 or more hours per day. It also established a single State demonstration project to evaluate the feasibility of reimbursing an additional meal in family day care homes for children in care for 8 or more hours per day.

November 1989 -- P.L. 101-147 changed the name of the program to the "Child and Adult Care Food Program"; provided administrative funding to family day care sponsors to expand the program into low-income or rural areas; required adult day care lunches to provide on average approximately one-third of the daily recommended dietary allowances; allowed State governors to designate a separate State agency to administer the adult day care portion of the program; allowed States the option of accepting Program applications from child and adult care institutions every other year rather than annually; requires households to provide only the social security number of the primary wage earner or person who signs the free or reduced price application. The institution would then be responsible for totaling the income information. In addition, the law extended the Minnesota Demonstration Project to September 30, 1990 and required several demonstration projects aimed at improving program access by low income children.

Congressional report language accompanying the legislation reduced the number of monitoring visits to schools which operate outside-school-hours care centers from six to three.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE SPECIAL MILK PROGRAM

October 1991

1. What is the Special Milk Program?

The Special Milk Program (SMP) encourages the consumption of milk by children in public and private nonprofit schools of high school grade or under, and in nonprofit residential or nonresidential child care institutions, provided they do not also participate in other federal meal service programs.

However, schools in the National School Lunch and/or School Breakfast Programs which operate split-session pre-kindergarten and kindergarten programs without access to the National School Lunch and/or Breakfast Programs may participate in the SMP.

2. Which children may participate?

The SMP is available to all children in participating schools and institutions regardless of family income.

3. How does the SMP operate?

Participating schools and institutions are required to operate their milk program on a nonprofit basis. They agree to use the federal reimbursement to reduce the selling price of milk to all children. Schools and institutions have several options in how they operate the SMP:

--They may sell milk to all children at a locally set sales price.

--They may provide milk free to children who meet the income eligibility criteria, while selling it to all other children.

--They may provide milk free to all children, with partial federal reimbursement.

4. What is the federal reimbursement?

The federal reimbursement for each half-pint of milk sold to children in school year 1991-92 is 11 cents. This figure is adjusted annually each July 1. The federal reimbursement for milk served free to eligible participants is the actual cost of the milk.

5. What types of milk can be offered?

Schools or institutions may choose from among pasteurized fluid types of unflavored or flavored whole milk, lowfat milk, skim milk, and cultured buttermilk which meet State and local standards for such milk. All milk must contain vitamins A and D at levels specified by the Food and Drug Administration.

6. Who is eligible for free milk?

When local officials elect to offer free milk under the program, any child from a family which meets the Secretary's income guidelines for free meals and milk is eligible. Each child's family must apply annually for free milk eligibility. When a school or institution provides free milk, it must not overtly identify or otherwise discriminate against children receiving free milk.

7. How much milk is served annually in the Special Milk Program?

In FY 1991, the following quantities of milk were served in the SMP: total half-pints, 185 million; free half-pints, 10 million; paid half-pints, 176 million. Total program cost is estimated to be $20.9 million.

8. How many institutions are participating in the Special Milk Program?

In FY 1991, the total number of institutions participating in the SMP was 11,758. Of that number, 9,512 were nonprofit schools, 1,910 summer camps, and 337 nonresidential child care institutions.

History of the Special Milk Program

1954--P.L. 83-69 established the Special Milk Program when funds from the Commodity Credit Corporation (CCC) were authorized to be used to increase fluid milk consumption for children in nonprofit schools.

1956--Authorization for CCC funds was increased to $75 million per year (P.L. 84-465). Eligibility expanded to include children in nonprofit child-care centers, settlement houses, summer camps, and similar nonprofit institutions.

1960--P.L. 86-446 authorized funds to reimburse CCC for the SMP and raised its annual funding level to $95 million.

1966--SMP incorporated into Child Nutrition Act of 1966 (P.L. 89-642).

1970--P.L. 91-295 permanently authorized SMP. SMP extended to Guam.

1973--P.L. 93-150 made free milk available to eligible children.

1975--SMP extended to the U.S. territories.

1977--P.L. 95-166 mandated that free milk could be made available at times other than during scheduled federally assisted meal service.

1980--P.L. 96-499 set a 5-cent flat paid rate for milk served in schools with meal service programs.

1981--P.L. 97-35 limited the SMP to schools and institutions not participating in another federally funded food service program. SMP limited to private schools with annual tuition of less than $1,500.

1986--Restored eligibility for SMP for children enrolled in split-session kindergarten programs if they do not have access to another federally assisted school meal program.

1987--SMP reinstated for all private schools.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE SUMMER FOOD SERVICE PROGRAM

October 1991

1. What is the Summer Food Service Program?

The Summer Food Service Program funds high-quality meals and snacks for children in needy areas when school is not in session.

2. How does the program operate?

The program is administered at the Federal level by the Food and Nutrition Service (FNS), an agency of the U.S. Department of Agriculture. Locally, it is operated by local sponsors, which receive reimbursement from USDA. Sponsorship is limited to public or private nonprofit school food authorities; state, local municipal or county governments; public or private nonprofit colleges and universities that are operating the National Youth Sports Program; public or private nonprofit residential summer camps; and private nonprofit organizations that operate special summer or school vacation programs.

3. Where does the program operate?

The Summer Food Service Program operates in areas with significant concentrations of low-income children. Current law defines such an area as one in which one half or more of the children are from families with income at or below 185 percent of poverty. Homeless feeding sites primarily serving homeless children may participate regardless of location. Residential camps also may participate, but reimbursement is made only for meals served to children eligible for free and reduced-price meals.

4. Who is eligible to participate?

Any child age 18 and under, or any person over 18 who is handicapped and who participates in a program established for the mentally or physically handicapped.

5. How many meals do participants receive each day?

At most feeding sites, participants receive either one meal (a breakfast, a lunch, or a supplement) or two meals (lunch and either a breakfast or a supplement). However, residential camp sponsors and sites which primarily serve migrant children may be approved to serve up to four meals per day.

6. What are the reimbursement rates?

Rates are set each January. A sponsor is reimbursed for actual documented costs up to the following maximum rate:
Food service rates for summer 1991 (in cents)

Breakfast	108.75
Lunch/supper	195.50
Snack/supplement	51.25

7. What administrative funds are paid to sponsors?

In addition to the reimbursement rates above, sponsors receive Federal funds for administrative costs. The administrative rates per meal for summer 1991 are (in cents):

	Basic	Rural/Self-Preparation Sites
Breakfast	8.00	10.00
Lunch/Supper	15.50	18.50
Supplement	4.00	5.00

8. How many children are served in the Summer Food Service Program, and at what cost?

Fiscal Year	Participation 1) (thousands)	Dollar value (millions)
1981	1,726	$ 105.9
1982	1,397	87.1
1983	1,401	93.4
1984	1,422	96.2
1985	1,462	111.5
1986	1,509	114.7
1987	1,560	129.3
1988	1,577	135.7
1989	1,652	143.3
1990	1,689	164.5
1991 2)	1,992	180.0 (est.)

For 1992, Congress has appropriated $196.2 million for the Summer Food Service Program.

1) Peak participation

2) Preliminary figures

History of the Summer Food Service Program

May 1968--P.L. 90-302 established the Special Food Service Program for Children (SFSPFC), a 3-year pilot program that was the forerunner of the Summer Food Service Program and the Child Care Food Program.

November 1975--P.L. 94-105 separated the Child Care and Summer Food Service components of the SFSPFC. Eligibility for the Summer Food Service Program was extended to include residential summer camps and institutions conducting a regularly scheduled program for children.

November 1977--P.L. 95-166 addressed abuses which had developed in the program by mandating stricter eligibility rules for sponsors, tightening accounting procedures and imposing penalties for fraud.

November 1978--P.L. 95-627 extended program eligibility to some mentally and physically handicapped persons over age 18.

November 1979--P.L. 96-108 limited the eligibility of some private nonprofit institutions which sponsored large programs and purchased meals from food service management companies.

December 1980--P.L. 96-499 limited summer meal service at most sites to lunch and either breakfast or a snack.

August 1981--P.L. 97-35 limited the types of organizations eligible to sponsor the Summer Food Service Program by excluding private, nonprofit sponsors other than schools and residential camps. The law also changed the area eligibility requirements by requiring that one-half of the children in the area be from families with income at or below 185 percent of poverty.

December 1982--P.L. 97-370 mandated that sponsors submit their final reimbursement claims for meal service to state agencies within 60 days of the claiming month, and that states submit program operations reports to the Department within 90 days of the month covered by the report.

November 1986--P.L. 99-500 and 99-591 allowed sponsors which are school food authorities to use facilities, equipment and personnel for nonprofit nutrition programs for the elderly.

These laws also extended automatic free meal eligibility to children from households receiving food stamps or Aid to Families with Dependent Children.

September 1988--P.L. 100-435 added public and private nonprofit colleges and universities which are participating in the National Youth Sports Program to the category of eligible sponsors. It also created a five state demonstration project in which private nonprofit sponsors are eligible to participate in the programs under certain size restrictions.

November 1989--P.L. 101-147 (1) made eligible to serve as sites meal providers who conduct food service primarily for homeless children; (2) allowed private nonprofit organizations to act as sponsors subject to certain conditions; (3) required States to conduct outreach to private nonprofit organizations in FY 90 and FY 91; (4) required States to conduct training and technical assistance to nonprofit private organizations and (5) made academic year National Youth Sports Programs eligible to participate year-round.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE SPECIAL SUPPLEMENTAL FOOD PROGRAM FOR WOMEN, INFANTS, AND CHILDREN (WIC)

October 1991

1. What is the Special Supplemental Food Program for Women, Infants and Children?

The Special Supplemental Food Program for Women, Infants and Children, popularly known as WIC, is a grant program administered by the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture. The WIC program provides supplemental foods, plus health care referrals and nutrition education at no cost to low-income pregnant, breastfeeding and nonbreastfeeding postpartum women, infants and young children up to 5 years of age who are found to be at nutritional risk. Grants are provided to the states, which in turn either distribute food directly or provide vouchers that can be used at authorized vendors. To be eligible, persons must: (1) meet a State residency requirement; (2) meet an income standard or participate in Aid to Families with Dependent Children (AFDC), the Food Stamp Program or Medicaid; and (3) be individually determined to be at nutritional risk by a health professional.

2. Where is WIC available?

The WIC program is available in each State, the District of Columbia, Puerto Rico, the Virgin Islands and Guam. Over 5 million participants and 47,000 vendors participate in the program. State health departments and Indian tribal organizations serve as the 86 WIC State agencies responsible for overseeing approximately 1,750 WIC local agencies. The local agencies operate over 8,200 clinic sites.

3. How is "nutritional risk" determined for a WIC participant?

The nutritional risk determination is made by a competent professional authority such as a physician, nutritionist, nurse or other health official, and is based on Federal guidelines. This health screening is performed at no cost to program applicants.

Three major types of nutritional risks are recognized:

--Medically-based risks (designated as "high priority") such as anemia, underweight, maternal age, history of pregnancy complications or poor pregnancy outcomes;

--Diet- based risks such as inadequate dietary patterns determined by a 24-hour dietary recall, food frequency, or a diet history;

--Conditions that predispose persons to medically-based or diet-based risks, such as alcoholism or drug addiction.

4. What is the income eligibility requirement?

The maximum Federal standard is 185 percent of the U.S.Poverty Income Guidelines ($24,790 for a family of four according to the guidelines effective July 1, 1991 - June 30, 1992). However, States may set lower standards (between 100 and 185 percent of the Federal guidelines) that correspond to income limits used in their other health care delivery programs. Some States set lower income limits than the national standard for all or part of their WIC populations. Additionally, a person who participates in AFDC, the Food Stamp Program or Medicaid automatically meets the income eligibility requirement.

5. What food benefits do WIC participants receive?

WIC participants receive a monthly food package designed to supplement their diets. The foods provided are high in protein, calcium, iron, and vitamins A and C. These are the nutrients frequently lacking in the diets of the program's target population.

The WIC foods include iron-fortified infant formula and infant cereal, iron-fortified adult cereal, vitamin C-rich frult or vegetable juice, eggs, milk, cheese, and peanut butter or dried beans/peas. Special therapeutic formulas are provided when prescribed by a physician for a specified medical condition.

6. What are the six food package categories?

The food package categories are:

(1) infants from birth through 3 months of age;
(2) infants from 4 months through 12 months of age;
(3) women and children with special dietary needs;
(4) children 1 to 5 years of age;
(5) pregnant and breastfeeding women; and
(6) non-breastfeeding postpartum women.

7. How many persons does WIC serve?

AVERAGE MONTHLY WIC PARTICIPATION, 1982-1990

Fiscal Year	Women	Infants	Children	Total
1982	477,563	623,380	1,088,088	2,189,031
1983	541,825	729,932	1,265,206	2,536,963
1984	656,642	825,053	1,563,077	3,044,772
1985	664,812	873,569	1,599,604	3,137,985
1986	711,667	944,582	1,655,421	3,311,670
1987	750,616	1,019,474	1,659,808	3,429,898
1988	815,253	1,094,600	1,682,990	3,592,843
1989	951,819	1,259,596	1,906,955	4,118,371
1990	1,035,028	1,412,451	2,069,391	4,516,869
1991*	1,098,486	1,538,725	2,157,837	4,795,048

*1991 figures as of July

8. To what extent are infants served by WIC?

More than 1.5 million infants participate in the WIC program; almost one out of every three babies born in the U.S. is served by WIC. (See question 9.)

9. What percent of eligible people does WIC reach?

The WIC program reaches about 85 percent of eligible pregnant women and infants. Of all women infants and children fully eligible, the program serves about 55 percent.

10. What are the priority participation categories?

Once a local agency has reached its maximum caseload, vacancies are to be filled in the order of the following priority levels to assure that benefits are received first by individuals at greatest nutritional risk:
(1) Pregnant women, breastfeeding women, and infants determined to be at nutritional risk by a blood test, height and weight measurements, or other documentation of a nutrition-related medical condition;
(2) Infants, up to 6 months of age, whose mothers were at nutritional risk during pregnancy;
(3) Children at nutritional risk as determined by a blood test, height and weight measurements, or other documentation of a nutrition-related medical condition;
(4) Pregnant or breastfeeding women and infants at nutritional risk because of an inadequate dietary pattern;
(5) Children at nutritional risk because of an inadequate dietary pattern; and
(6) Non-breastfeeding, postpartum women at nutritional risk.

11. What is the funding level for the WIC program?

For Fiscal Year 1992, Congress has appropriated $2.6 billion for WIC. For FY 1991, $2.35 billion was appropriated.

12. How has WIC funding and the cost of the WIC food package changed?

WIC PROGRAM COSTS (in millions of dollars)

FISCAL YEAR	FOOD COST	TOTAL COST	AVERAGE FOOD COST PER PERSON (in dollars)	
1980	$584.1	$727.7	$25.43	
1981	$708.0	$871.6	$27.84	
1982	$757.6	$948.8	$28.83	
1983	$901.8	$1,126.0	$29.62	
1984	$1,117.3	$1,388.1	$30.58	
1985	$1,193.2	$1,489.3	$31.69	
1986	$1,264.4	$1,582.9	$31.82	
1987	$1,344.7	$1,679.6	$32.68	
1988	$1,434.8	$1,795.4	$33.28	
1989	$1,489.4	$1,905.9	$30.14	
1990	$1,642.0	$2,123.0	$30.33	
1991	$1,442.5	$2.350.0	$30.08	(1991 figures as of July)

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

COMMODITY SUPPLEMENTAL FOOD PROGRAM (CSFP)

October 1991

1. What is the Commodity Supplemental Food Program?

The Commodity Supplemental Food Program (CSFP) is a grant program administered by the Food and Nutrition Service (FNS), an agency of the U.S. Department of Agriculture. CSFP provides commodity supplemental foods to low-income infants; children up to age 6; pregnant, postpartum and breastfeeding women; and persons 60 years of age and over. In addition, State agencies that administer CSFP may establish a residency requirement and/or require applicants to be determined to be at nutritional risk in order to be eligible for program participation.

2. Where does the CSFP operate?

The CSFP operates through state agencies in 18 States and the District of Columbia, at a total of 40 sites. While all the State agencies serve women, infants and children, only 12 are currently authorized to serve elderly. CSFP may operate in the same area as the Special Supplemental Food Program for Women, Infants and Children (WIC), which serves a similar population. However, Individuals may not participate in both programs simultaneously.

The CSFP is authorized to operate in the District of Columbia and in Arizona, California, Colorado, Illinois, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota (including Red Lake Indian Reservation in Minnesota), Nebraska, New Hampshire, New Mexico, New York, North Carolina, Oregon, Tennessee, and South Dakota.

3. How does the program operate?

The program is operated by State agencies such as departments of health, social services, education or agriculture. A local agency may be a public or private nonprofit agency that provides service to low-income people. The U.S. Department of Agriculture (USDA) donates commodity foods to the appropriate State agency for distribution and provides funds to State and local agencies to cover certain administrative costs. USDA pays for the initial processing and packaging of the food and for transporting it to the first point of destination in the State. State distributing agencies are then responsible for storing the food and distributing it to local agencies. Local agencies determine the eligibility of applicants, distribute the foods, and provide nutrition education. Local agencies are also encouraged to develop health care linkages and must refer participants to other welfare and health care programs such as food stamps, Medicaid and Medicare.

4. What is the nutrition requirement for participation?

This requirement is discretionary with each State. States which require participants to be at nutritional risk base this assessment on a variety of measures, including height and weight measurements and blood tests. Examples of nutritional risk conditions include inappropriate weight for height, and anemia.

5. What is the income requirement for participation?

To be income-eligible to participate in CSFP, women, infants, and children must be eligible for benefits under existing Federal, State or local food, health or welfare programs for low-income persons. The elderly must have an annual gross income at or below 130 percent of Federal Poverty Income Guidelines ($11,544 for a family of two according to guidelines effective July 1, 1991-June 30, 1992).

6. What foods are provided to participants?

There are six food packages for different categories of participants. The foods offered include infant formula and cereal, nonfat dry and evaporated milk, juice, farina, oats, ready-to-eat cereal, rice, pasta, egg mix, dehydrated potatoes, peanut butter and dry beans/peas, canned meat/poultry/tuna, and canned fruits/vegetables. Special bonus items such as surplus cheese, butter, and honey, are periodically made available. These items are not, however, part of the regular authorized food packages. The food packages do not provide a complete diet, but rather are supplemental foods that are good sources of the nutrients lacking in the diets of the target population.

7. What are the food package categories?

The six food packages are:

- infants through 3 months
- infants 4 months through 12 months
- children 1 to 6 years of age
- pregnant and breastfeeding women
- non-breastfeeding, postpartum women
- elderly persons 60 years of age or older

8. What is the actual cost of the program?*

Fiscal Year 1984 - $48.0 million
Fiscal Year 1985 - $48.4
Fiscal Year 1986 - $47.7
Fiscal Year 1987 - $55.6
Fiscal Year 1988 - $61.8
Fiscal Year 1989 - $72.7
Fiscal Year 1990 - $83.2
Fiscal Year 1991 - $60.5 (Thru July 91)

*Includes the value of entitlement, bonus and free commodities issued to women, infants, children and the elderly, and administrative payments made to agencies.

9. What has the average monthly participation been?*

Fiscal Year 1984 - 150,100
Fiscal Year 1985 - 158,500
Fiscal Year 1986 - 161,300
Fiscal Year 1987 - 192,700
Fiscal Year 1988 - 212,600
Fiscal Year 1989 - 239,607
Fiscal Year 1990 - 273,874
Fiscal Year 1991 - 289,726 (Thru July 91)

*These figures include the elderly participation.

10. What is the average monthly participation of the elderly?

Fiscal Year 1984 - 12,913
Fiscal Year 1985 - 19,421
Fiscal Year 1986 - 23,253
Fiscal Year 1987 - 56,217
Fiscal Year 1988 - 81,788
Fiscal Year 1989 - 92,331
Fiscal Year 1990 - 106,686
Fiscal Year 1991 - 108,800 (Thru July 91)

11. What funds have been appropriated for Fiscal Year 1992?

The CSFP has been appropriated $90 million for Fiscal Year 1992. Thge 1991 appropriation was $81.9 million. The total administrative grant for Fiscal Year 1991 for 20 CSFP State agencies was $16.3 million. The remaining funds were used for the procurement of entitlement commodities. Bonus and free commodities are provided by USDA at no cost to CSFP State agencies.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE EMERGENCY FOOD ASSISTANCE PROGRAM (TEFAP)

October 1991

1. What is The Emergency Food Assistance Program?

Originally named the Temporary Emergency Food Assistance Program, TEFAP gives needy Americans, including low-income and unemployed persons, USDA-donated foods for household use. The foods are free; recipients must meet certain eligibility criteria.

2. When and why did TEFAP start?

USDA foods amounting to almost 6 billion pounds worth over $6 billion have been distributed to help the needy since the inception of TEFAP in 1981. President Reagan authorized the distribution of surplus commodities to households in December 1981 to help reduce Federal food inventories and storage costs, while assisting the needy. Distribution began in 1982. In March 1983, Congress passed P.L. 98-8, the Jobs Bill, which authorized the Temporary Emergency Food Assistance Program (TEFAP) and provided administrative funds to states for distribution and management of the commodities. The Hunger Prevention Act, P.L. 100-435, authorized TEFAP through September 30, 1991 and required the Secretary of Agriculture to purchase an additional $120 million worth of food for further distribution to needy households and $32 million in commodities to soup kitchens and food banks. The 1990 Farm Bill reauthorized the program through 1995 and dropped the word "temporary" from the name.

3. How much food do people get on average?

In Fiscal Year 1991, 27.8 pounds of food worth $14.06 per recipient (total pounds and dollars divided by estimated 15 million participants) were distributed on a monthly basis.

4. How much food has been donated to the needy since TEFAP began?

TEFAP has provided billions of pounds of food since its beginning. Commodities have included flour, cornmeal, butter, honey, cheese, canned meat, peanut butter, raisins, canned vegetables, and rice.

Amounts of food distributed year by year:

	POUNDS (mil)	DOLLARS (mil)
1982	122	$179
1983	653	$900
1984	850	$1,031
1985	930	$972
1986	948	$846
1987	1,014	$846
1988	692	$537
1989	417	$255
1990	409	$236
1991*	417	$211

*Preliminary figures

5. Why was there a decrease in the surplus commodities provided for distribution?

Distribution through TEFAP and other domestic feeding programs has reduced some of the surpluses, specifically of cheese, nonfat dry milk, and rice. Most important, modifications in the price-support programs have reduced the volume of commodities USDA has been required to purchase. Price supports were lowered in order to bring farm production back in line with consumption.

6. Where should TEFAP recipients turn for additional help?

It is estimated that some 90 percent of TEFAP households may be eligible for food stamps. The nutritional needs of low-income individuals can be met through a variety of other USDA programs such as the Food Stamp Program; the National School Lunch and School Breakfast Programs; Child Care and Summer Food Service Programs; the Nutrition Program for the Elderly; commodity donations to charitable institutions; the Special Supplemental Food Program for Women, Infants and Children (WIC); and the Commodity Supplemental Food Program. These programs provide some $20 billion annually for food assistance to low-income households.

7. Who sets eligibility criteria under The Emergency Food Assistance Program?

Each State agency must establish criteria for determining which persons are eligible to participate in the program. An acceptable income standard may include participation in any other existing Federal, State or local food, health or welfare program for which income is considered as a basis for eligibility.

Each State can adjust the income criteria based on the level of need in order to ensure that assistance is provided only to those most in need.

8. How many people participate in TEFAP?

An estimated 15 million people participate each month.

9. How do TEFAP foods reach recipients?

In each State, USDA enters into agreements with the agency responsible for administering the program. Once the foods are made available to the States, the overall organization and administration of the distributions become responsibilities of State agencies. Each State is responsible for selecting emergency feeding organizations to distribute the commodities. The frequency of the distributions, as well as the quantities of commodities to be distributed to local areas, are also determined by each State distributing agency.

10. Do States receive funding for administering the program?

USDA buys the food, processes and packages it, and ships it to the States. States use program administrative funds to distribute foods within the State. TEFAP authority provides that $50 million a year in administrative funds be made available to States through Fiscal Year 1995. A minimum of 40 percent of the funds each State receives for the fiscal year must be made available to the local emergency feeding organizations for actual expenses incurred for the storage, handling, transportation, processing and distribution of the commodities.

The State agency must maintain records on the amount of funds paid to emergency feeding organizations for such costs. State agencies must also ensure that emergency feeding organizations maintain records documenting these costs. States are required to describe the formula for allocating funds to emergency feeding organizations in their distribution plans.

11. How many elderly participate in TEFAP?

Nearly four out of every 10 TEFAP households (38 percent) are headed by a person 60 years of age or older. Most of these households consist of a single person (55 percent) or a couple (30 percent).

Most participating elderly households have incomes considerably higher than non-elderly TEFAP households. Forty percent of all elderly households have incomes above the poverty line compared to 14 percent of non-elderly households.

12. Are the homeless eligible for TEFAP food?

As long as they meet the requirements, the homeless can benefit from the program. In a nationally representative survey for 1986, one-tenth of one percent of TEFAP recipients identified themselves as homeless.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

THE FOOD DISTRIBUTION PROGRAM FOR CHARITABLE INSTITUTIONS

October 1991

1. What is the Food Distribution Program for Charitable Institutions?

Thousands of charitable institutions throughout the country rely on foods donated by the U.S. Department of Agriculture (USDA) to help provide meals to needy people. These institutions range from churches operating community kitchens for the homeless and destitute, to orphanages and homes for the elderly. Other eligible institutions include meals-on-wheels programs, soup kitchens, temporary shelters, correctional institutions offering rehabilitative activities, group homes for the mentally retarded, and hospitals that offer general and long-term health care.

2. Who is eligible?

To participate, charitable institutions must be nonprofit and serve meals on a regular basis. They may be either public institutions or nonprofit private institutions that have Federal tax-exempt status. Interested institutions apply for participation to their State's distributing agency, which determines eligibility based on standards set by USDA.

3. How are the foods distributed?

Throughout the year, USDA buys a variety of foods through programs designed to stabilize farm prices. USDA has this food processed, packaged, and transported to designated locations within each State. State distributing agencies supply the food to eligible institutions and other users of donated foods.

4. What foods are available?

The kinds and quantities of food donated to charitable institutions vary, depending on market conditions. Generally, the foods donated are cereal and grain products such as flour, cornmeal, rice, rolled wheat and oats, bulgur, macaroni, and spaghetti; and peanut and oil products such as roasted peanuts, peanut butter, peanut granules, soybean oil, and soybean shortening.

Food Program Facts / Food Distribution - Charitable

5. What amounts of commodities have been distributed in recent years?

Charitable Institutions

	Pounds (mil)	Dollar Value (mil)
1988	271.8	146.1
1989	239.9	115.3
1990	245.2*	100.5*
1991	268.4*	92.9*

Soup Kitchens and Food Banks

	Pounds (mil)	Dollar Value (mil)
1988	0	0
1989	79.7	39.7
1990	76.5*	38.4*
1991	64.8*	31.6*

*Preliminary

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 305-2286

NUTRITION PROGRAM FOR THE ELDERLY (NPE)

October 1991

1. What is the Nutrition Program for the Elderly?

The Nutrition Program for the Elderly is administered by the U.S. Department of Health and Human Services (DHHS). Under provisions of the Older Americans Act of 1965, the U.S. Department of Agriculture (USDA) contributes commodities and/or cash to DHHS programs for the elderly.

2. What DHHS programs does NPE support?

The DHHS programs provide elderly persons with nutritionally sound meals through the meals-on-wheels program or in senior citizens centers and similar settings. The meals provide the focal point for activities which have the dual objective of promoting better health and reducing the isolation that may occur in old age.

3. Who is eligible?

Age is the only factor used in determining eligibillty. People age 60 or older and their spouses, regardless of age, are eligible for NPE benefits. Indian tribal organizations may select an age below 60 for defining an "older" person for their tribes.

There is no income requirement to receive meals under NPE. Each recipient can contribute as much as he or she wishes toward the cost of the meal, but meals are free to those who cannot make any contribution.

4. What does the program provide?

Under NPE, USDA provides commodity foods and/or cash reimbursements for meals served through DHHS programs. Meals must provide one-third of the Recommended Dietary Allowances (RDA's) in order to qualify for cash or commodity assistance. USDA provided reimbursement for over 245 million meals at the rate of 56.76 cents per meal in fiscal year 1990. This reimbursement rate will continue through fiscal year 1991.

5. Is NPE a commodity or cash subsidy program?

States can elect to take part or all of their subsidies in cash, rather than commodities. States or Indian tribes which elect 20 percent of their benefits In commodities are eligible to receive such bonus commodities as USDA can make available.
Although originally a program to distribute nutritional USDA -purchased commodities to senior citizen meal sites, the program has evolved primarily into a cash subsidy program. Approximately 94 percent of program resources are distributed to meal providers in cash.

6. How many meals are served and at what cost?

Preliminary 1991 figures show::
--Average daily meals served: 919,746
--Total number of meals served: 202.3 million
--Cost: $92.7 million in cash reimbursements plus $10.8 million in commodity foods.

Food Program Facts

Food and Nutrition Service
U.S. Department of Agriculture

Public Information Staff/News Branch
3101 Park Center Drive
Alexandria, VA 22302
(703) 756-3286

USDA's COMMODITY DONATION PROGRAMS

October 1991

1. What do USDA's Commodity Donation Programs entail?

Through its commodity programs, the Department of Agriculture has been providing food to people and help to farmers for 56 years. USDA supports farmers by removing foods that are surplus or in need of price support from the market. It makes the same wholesome, nutritious commodities available to schools and other outlets to feed children, the elderly and the needy.

USDA's Food Distribution Program is big business. Preliminary figures for 1991 show USDA distributed 1.4 billion of pounds of food worth over $700 million to schools, child care centers, summer feeding programs, nutrition programs for the elderly, and charitable institutions.

2. How are USDA foods distributed?

USDA foods are distributed in the following programs:

–National School Lunch and School Breakfast Programs. These programs help schools serve nourishing low-cost meals to children. In addition to cash assistance, participating schools get USDA-donated foods and technical guidance. Cash payments to schools are higher for meals served to children who qualify, on the basis of family size and income, for free or reduced-price meals. The amount of food provided is based on the total meals served.

National School Lunch commodities distributed in recent years:

	Pounds	Dollar Value
1987	1,393,620,400	881,823,575
1988	1,437,873,883	856,040,281
1989	1,295,178,496	817,847,827
1990	1,079,856,410	624,019,973
1991*	1,122,129,802	623,781,435

*Preliminary totals

–The Child and Adult Care Food Program (CACFP). This program helps child care facilities and institutions serve nutritious meals and snacks to preschool and school-age children. The program operates year-round and provides two meals and a snack to children and functionally impaired adults in non-residential facilities, such as Head Start centers, day care homes, and child care centers. Under CACFP, participating facilities and institutions get cash assistance, USDA-donated foods, and technical guidance. USDA food or cash in lieu thereof is provided on the basis of lunches and suppers served.

Commodities distributed in the Child Care Food Program in recent years:

	Pounds	Dollar Value (millions)
1987	12,507,693	$13.5
1988	14,146,295	14.3
1989	9,383,292	6.8
1990	7,625,100	4.5
1991*	8,417,373	4.7

*Preliminary totals

–The Nutrition Program for the Elderly. This program provides food assistance and helps subsidize over 240 million meals per year for older Americans in congregate meal service settings. The program is an adjunct to elderly programs administered by the Department of Health and Human Services. USDA provides states with a certain level of cash or commodity assistance for each meal served.

Commodities distributed in the Nutrition Program for the Elderly in recent years:

	Pounds	Dollar Value (millions)
1987	19,478,920	14.2
1988	20,781,692	13.3
1989	11,671,501	8.3
1990	10,351,421	6.5
1991*	10,017,415	5.9

*Preliminary totals

–Charitable Institutions. Thousands of charitable institutions throughout the country use USDA-donated foods in meals for needy children and adults. These institutions include orphanages, hospitals offering general and long-term health care, and soup kitchens. To be eligible, institutions must be nonprofit and serve meals on a regular basis. They may be either public institutions or nonprofit private institutions that have Federal tax-exempt status.

Commodities distributed to charitable institutions in recent years:

	Pounds	Dollar Value (millions)
1987	273,920,093	158.1
1988	263,586,362	153.8
1989	239,959,255	115.3
1990	245,237,418	100.5
1991*	268,409,374	92.9

*Preliminary totals

–The Emergency Food Assistance Program, the Commodity Supplemental Food Program; and the Food Distribution Program on Indian Reservations. Commodity foods are also distributed through these programs. Information on these or any of the programs mentioned in this fact sheet is available from the Public Information Staff, Food and Nutrition Service, USDA.

3. What foods do the programs offer?

Schools, child and adult care institutions, and sites participating in the Nutrition Program for the Elderly can choose from food items that have increased in number and variety. Today there are over 80 different foods to choose from -- everything from apples to tuna fish. The types of commodities donated to charitable institutions vary depending on market conditions, but generally include cereal and grains products, and peanut and oil products.

4. What's new with USDA foods?

Keeping pace with the changing tastes of consumers and with technological innovations, USDA continues to keep high-quality food on the table in school lunch rooms and charitable institutions. School lunch is a major industry, ranking in size and sophistication with the leading fast food chains. The National School Lunch Program feeds approximately 24 million children each school day.

USDA is always improving the foods it supplies. Among recent changes:

--Making nutritional improvements such as packing fruits in fruit juices and light syrup, reducing salt levels in canned meat and fat levels in ground beef, and lowering sodium and sugar levels of USDA-purchased foods.

--Offering new products to increase the diversity and quality of meals served. For example, canned boned chicken was replaced by chicken patties and has now given way to chicken nuggets. Canned tuna and salmon have also been introduced into programs.

--Responding to product changes and expanding the variety of foods offered. USDA now provides both chunky and smooth peanut butter, bleached and unbleached flour, and ground beef in several different forms.

--Working to give Food Distribution Agencies timely information on availability, packaging, product specifications, storage, and handling.

History of the Food Distribution Programs

The Food Distribution Program had its origins in the Depression of the 1930's when the Federal government acted to fill two critical needs: Many Americans were unemployed, unable to buy food, and going hungry; and at the same time farmers helplessly watched crops rot in the fields, and destroyed animals because there were no markets for them.

In 1935, Congress acted to address these problems. It authorized the U.S. Department of Agriculture to purchase unsold crops and put them to good use by channeling them through state and local agencies to help feed millions of hungry Americans. Thus, the Food Distribution Program was created.

Recipients of donated foods in the 1930's included schools, summer camps for children, charitable institutions, and needy families.In the 1940's, the National School Lunch Act was passed (June 4, 1946), creating the biggest single outlet for USDA-donated foods.

The legislation of the 1930's and 40's that gave USDA the authority to prop up sagging farm prices was specifically focused on restoring prosperity to the agricultural sector. With the passage of the National School Lunch Act, food distribution took on the additional purpose of promoting healthful diets for children and needy Americans.

The need to provide service to schools resulted in a far greater array of commodities than before. In the beginning of the program, the types of food donated were fewer. They were likely to arrive at their destination in bulky cuts and unwieldy containers. Recipients usually had to scramble to find a place to store the food and plan their menus around it.

Food Program Facts / Commodity Donation Programs

As schools became a major outlet for commodities, their needs influenced the form and timing of the food received. Today, a wide variety of foods in different forms -- from frozen to prepackaged to processed -- are available to schools and the many other outlets benefiting from the consumer-oriented food donations program of the 1980's and 1990's.

APPENDIX II-2: AGE AND SEX SPECIFIC RECOMMENDED DIETARY ALLOWANCES (RDAs)

FOOD AND NUTRITION BOARD, NATIONAL ACADEMY OF SCIENCES—NATIONAL RESEARCH COUNCIL

RECOMMENDED DIETARY ALLOWANCES,[a] Revised 1989

Designed for the maintenance of good nutrition of practically all healthy people in the United States

							Fat-Soluble Vitamins				Water-Soluble Vitamins							Minerals						
Category	Age (years) or Condition	Weight[b] (kg)	Weight[b] (lb)	Height[b] (cm)	Height[b] (in)	Protein (g)	Vitamin A (μg RE)[c]	Vitamin D (μg)[d]	Vitamin E (mg α-TE)[e]	Vitamin K (μg)	Vitamin C (mg)	Thiamin (mg)	Riboflavin (mg)	Niacin (mg NE)[f]	Vitamin B_6 (mg)	Folate (μg)	Vitamin B_{12} (μg)	Calcium (mg)	Phosphorus (mg)	Magnesium (mg)	Iron (mg)	Zinc (mg)	Iodine (μg)	Selenium (μg)
Infants	0.0–0.5	6	13	60	24	13	375	7.5	3	5	30	0.3	0.4	5	0.3	25	0.3	400	300	40	6	5	40	10
	0.5–1.0	9	20	71	28	14	375	10	4	10	35	0.4	0.5	6	0.6	35	0.5	600	500	60	10	5	50	15
Children	1–3	13	29	90	35	16	400	10	6	15	40	0.7	0.8	9	1.0	50	0.7	800	800	80	10	10	70	20
	4–6	20	44	112	44	24	500	10	7	20	45	0.9	1.1	12	1.1	75	1.0	800	800	120	10	10	90	20
	7–10	28	62	132	52	28	700	10	7	30	45	1.0	1.2	13	1.4	100	1.4	800	800	170	10	10	120	30
Males	11–14	45	99	157	62	45	1,000	10	10	45	50	1.3	1.5	17	1.7	150	2.0	1,200	1,200	270	12	15	150	40
	15–18	66	145	176	69	59	1,000	10	10	65	60	1.5	1.8	20	2.0	200	2.0	1,200	1,200	400	12	15	150	50
	19–24	72	160	177	70	58	1,000	10	10	70	60	1.5	1.7	19	2.0	200	2.0	1,200	1,200	350	10	15	150	70
	25–50	79	174	176	70	63	1,000	5	10	80	60	1.5	1.7	19	2.0	200	2.0	800	800	350	10	15	150	70
	51+	77	170	173	68	63	1,000	5	10	80	60	1.2	1.4	15	2.0	200	2.0	800	800	350	10	15	150	70
Females	11–14	46	101	157	62	46	800	10	8	45	50	1.1	1.3	15	1.4	150	2.0	1,200	1,200	280	15	12	150	45
	15–18	55	120	163	64	44	800	10	8	55	60	1.1	1.3	15	1.5	180	2.0	1,200	1,200	300	15	12	150	50
	19–24	58	128	164	65	46	800	10	8	60	60	1.1	1.3	15	1.6	180	2.0	1,200	1,200	280	15	12	150	55
	25–50	63	138	163	64	50	800	5	8	65	60	1.1	1.3	15	1.6	180	2.0	800	800	280	15	12	150	55
	51+	65	143	160	63	50	800	5	8	65	60	1.0	1.2	13	1.6	180	2.0	800	800	280	10	12	150	55
Pregnant						60	800	10	10	65	70	1.5	1.6	17	2.2	400	2.2	1,200	1,200	320	30	15	175	65
Lactating	1st 6 months					65	1,300	10	12	65	95	1.6	1.8	20	2.1	280	2.6	1,200	1,200	355	15	19	200	75
	2nd 6 months					62	1,200	10	11	65	90	1.6	1.7	20	2.1	260	2.6	1,200	1,200	340	15	16	200	75

[a] The allowances, expressed as average daily intakes over time, are intended to provide for individual variations among most normal persons as they live in the United States under usual environmental stresses. Diets should be based on a variety of common foods in order to provide other nutrients for which human requirements have been less well defined. See text for detailed discussion of allowances and of nutrients not tabulated.

[b] Weights and heights of Reference Adults are actual medians for the U.S. population of the designated age, as reported by NHANES II. The median weights and heights of those under 19 years of age were taken from Hamill et al. (1979) (see pages 16–17). The use of these figures does not imply that the height-to-weight ratios are ideal.

[c] Retinol equivalents. 1 retinol equivalent = 1 μg retinol or 6 μg β-carotene. See text for calculation of vitamin A activity of diets as retinol equivalents.

[d] As cholecalciferol. 10 μg cholecalciferol = 400 IU of vitamin D.

[e] α-Tocopherol equivalents. 1 mg d-α tocopherol = 1 α TE. See text for variation in allowances and calculation of vitamin E activity of the diet as α tocopherol equivalents.

[f] 1 NE (niacin equivalent) is equal to 1 mg of niacin or 60 mg of dietary tryptophan.

From National Research Council, Subcommittee on the Tenth Edition of the RDAs, 1989. Recommended Dietary Allowances. Washington, D.C., National Academy Press.

APPENDIX II-3: PER-CAPITA FOOD AVAILABILITY

comparison studies are usually conducted when new analytical methods are introduced for blood chemistry measurements in the HANES. The analyses performed by Perloff (1988a,b) on the impact of changes in the nutrient database between the NFCS 1977-78 and the CSFII 1985-86 and the ongoing USDA 1988 Bridging Survey evaluating methodology changes between the NFCS 1977-78 and the NFCS 1987-88 also represent the types of studies needed if the NNMS is to achieve one of its important objectives of assessing changes in diet and nutritional status over time. Results of these studies should be made more readily available to data users.

The Panel recommends introduction of a common core of sociodemographic descriptors in all NNMS surveys to enhance the capacity to establish linkages among surveys (USDA and NCHS currently use many common descriptors). For example, if groups could be characterized by age, race, income, and education on the basis of the same descriptors, knowledge and attitudes of specified groups assessed in the BRFSS or the Health and Diet Study could be related ecologically to dietary intakes of the groups in the NFCS characterized in the same fashion. With improved capability for linking survey results, the need to add additional measures to individual surveys could be reduced.

The Panel also noted that the capability of more thorough and complete comparisons from various components of the NNMS would be enhanced if there were greater similarities in data reporting from various Agencies, for example, using the same age groups. The Panel recommends that the Agencies coordinate data reporting to the extent possible.

Needs for Data Collection, Analysis, and Dissemination

Coverage of Groups Currently Excluded

The sampling plans of many NNMS surveys necessarily exclude some groups of the population. Nationally representative samples of the civilian noninstitutionalized population exclude military personnel, persons living in institutions such as prisons and long-term care facilities, Native Americans living on reservations, and persons without fixed addresses (migrant workers and the homeless). Conclusions of the EPONM about the rarity of nutritional deficiencies in the United States were made cautiously because of the exclusion of some groups suspected to be at higher risk of being malnourished (notably the homeless and the institutionalized elderly). Assessments of at least some of these excluded groups are necessary if statements about the nutritional status of the entire U.S. population are desired. Special-purpose surveys may be a more efficient mechanism for obtaining information about these groups than their inclusion in one of the existing surveys. Special methodologies will need to be developed for sampling (in the case of the homeless) and for collecting dietary intake and medical history information (from the mentally impaired elderly) in order to provide assessments for some of these groups.

Improved Coverage of Groups Currently Included

The EPONM noted limitations in the information available for several groups of particular interest surveyed in the NNMS. These included young infants, children, pregnant women, lactating women, and the elderly.

- Relatively small numbers of infants, pregnant women (including teenagers), and lactating women are included in the nationally representative samples of the entire population. Surveillance activities of the CDC that focus on women and children do not provide representative samples because they generally select only low-income subjects. Even if larger numbers of infants, pregnant women, and lactating women were included in existing cross-sectional surveys, assessments would still be limited because the rapid changes undergone by these groups require analyses by narrow age groups or short time periods (such as trimesters) for appropriate analysis of status. Infants double their body weights in the first 3-4 months of life and experience many changes in the types of foods consumed over a short period of time: breast milk or formula in the first 3 months, some solid foods introduced during months 3-6, and table food in months 6-12. They represent a group at high risk because of the potential that long-term adverse developmental consequences may be the result of undernutrition early in life. Similarly, pregnant women undergo many physiological changes in a short period of time and undernutrition during pregnancy can have a profound influence on the development of the fetus and the health of the pregnant woman, while nutritional requirements and status differ greatly by trimester. High nutritional requirements are also imposed by lactation. These considerations convinced some of the EPONM that longitudinal studies of nutritional status in representative samples of these groups would be useful and advisable. Other members of

From Life Sciences Research Officer, Federation of American Societies for Experimental Biology, September 1989. Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring. DHHS Publication No. (PHS) 89-1255. Prepared for USDA and DHHS. Washington D.C., U.S. Government Printing Office.

Chapter 7

Recommendations

The EPONM was charged to recommend ways to strengthen the NNMS based on experiences involved in reviewing data analyses for this report. In deciding how to frame their recommendations, the EPONM reviewed the recommendations for improving the collection, dissemination, and usefulness of NNMS data offered by the JNMEC (DHHS/USDA, 1986) and the Coordinating Committee on Evaluation of Food Consumption Surveys (National Research Council, 1984). The EPONM finds that the conclusions of these groups, which dealt mainly with the HANES and NFCS, remain timely and of continued importance. In recently completed surveys (NFCS 1987-88) and in surveys currently in the field (NHANES III, CSFII 1989), progress has been made in implementing some of these recommendations, but most of the suggested changes were not reflected in the data available to the EPONM. In addition, both the USDA and DHHS have developed plans for survey activities, to a large extent, through 1995; thus, recommendations offered now may not be implemented for some time. As a result of this Panel's deliberations, we wish to emphasize the following general areas: comparability and compatibility among components of the NNMS; needs for data collection, analysis, and dissemination; and future reports on the NNMS. (Specific recommendations related to dietary and nutritional status in cardiovascular disease and to the assessment of iron nutriture are included in chapters 5 and 6, respectively.)

Comparability and Compatibility Among Components of the NNMS

The EPONM's objective of integrating data from the NNMS survey and surveillance activities was constrained because of differences among the various data-collecting activities. The different programmatic obligations and logistical requirements of the Agencies make it impractical to suggest that data collection methodologies should be identical in all survey and surveillance activities. They do not, however, preclude more serious efforts to improve the comparability of data. Because the EPONM was not informed about the details of content and methodology in the current and planned surveys, it is difficult to be specific in recommending many changes to improve comparability, but some particular concerns and suggestions arising from experiences in preparing this report are discussed below.

In the past, USDA and NCHS developed the nutrient composition databases for the NFCS and HANES independently. Because of this and other methodological differences, it has been impossible to determine the reason(s) for differences in nutrient intake between surveys conducted at the same time. The situation changed with the CSFII 1985-86 and HHANES; in fact, the most recent NFCS 1987-88 and the current CSFII 1989 and NHANES III all use the same food codes, descriptors, and nutrient composition data. However, there are still differences as to whether various food mixtures (such as casseroles) are coded as standard recipes or as separate ingredients reported by the respondents. Such differences in coding may introduce discrepancies in apparent nutrient intakes (especially for type of fat and amount of sodium) that may or may not be related to real differences in nutrient intakes. The Panel favors introducing greater similarity in data collection methods. As long as methods differ, questions will continue to arise about the comparability of data. In such cases, studies evaluating the effects of methodological differences on the data gathered should be conducted jointly by USDA and NCHS. If the goal of greater integration of the components of the NNMS is to be achieved, resources must be allocated to the conduct of such studies and the results should be made readily available to the community of data users.

The same situation is true for changes in methodology within surveys over time. Information is needed on the impact of any such changes, which are instituted to improve the accuracy or efficiency of data collection, on the resultant data. For example,

APPENDIX IV-2: NUTRITION MONITORING OBJECTIVES FROM: NUTRITION MONITORING IN THE UNITED STATES: AN UPDATE REPORT ON NUTRITION MONITORING

thirds of the objectives	23 States	35 States

22.3 Develop and disseminate among Federal, State, and local agencies procedures for collecting comparable data for each of the year 2000 national health objectives and incorporate these into Public Health Serice data collection systems. (Baseline: Although such surveys as the National Health Interview Survey may serve as a model, widely accepted procedures do not exist in 1990)

22.4 Develop and implement a national process to identify significant gaps in the Nation's Disease prevention and health promotion data, including data for racial and ethnic minorities, people with low incomes, and people with disabilities, and establish mechanisms to meet these needs. (Baseline: No such process exists in 1990)

22.5 Implement in all States periodic analysis and publiation of data needed to measure progress toward objectives for at least 10 of the priority areas of the national health objectives. (Baseline: 20 States reported that they disseminate the analysies they use to assess State progress toward the health objectives to the public and to health professionals in 1989)

	1989 Baseline	2000 Target
Periodic analysis and publication of State progress toward the national objectives for each racial or ethnic group that makes up at least 10 percent of the State population	--	25 States

22.6 Expand in all States systems for the transfer of health information related to the national health objectives among Federal, State, and local agencies (Baseline: 30 States reported that they have some capability for transfer of health data, tables, graphs, and maps to Federal, State, and local agencies that collect and analyze data in 1989)

22.7 Achieve timely release of national surveillance and survey data needed by health professionals and agencies to measure progress toward the national health objectives. (Baseline data available in 1993)

Blacks	65	58
American Indians/Alaska Natives	54	48

17.10 Reduce the most severe complications of diabetes as follows:

Complications Among People With Diabetes	1988 Baseline	2000 Target
End-stage renal disease	1.5/1,000	1.4/1,000
Blindness	2.2/1,000	1.4/1,000
Lower extremity amputation	8.2/1,000	4.9/1,000
Perinatal mortality	5%	2%
Major congenital malformation	8%	4%

17.11 Reduce diabetes to an incidence of no more than 2.5 per 1,000 people and a prevalence of no more than 25 per 1,000 people. (Baselines: 2.9 per 1,000 in 1987; 28 per 1,000 in 1987)

Prevalence of Diabetes (per 1,000)	1982-84 Baseline	2000 Target
American Indians/Alaska Natives	69	62
Puerto Ricans	55	49
Mexican Americans	54	49
Cuban Americans	36	32
Blacks	36	32

17.14 Increase to at least 40 percent the proportion of people with chronic and disabling conditions who receive formal patient education including information about community and self-help resources as an integral part of the management of their condition. (Baseline data available in 1991)

Patient Education	1983-84 Baseline	2000 Target
People with diabetes	32% (classes) 68% (counseling)	75%
People with asthma	--	50%

21.4 Improve financing and delivery of clinical preventive services so that virtually no American has a financial barrier to receiving, at a minimum, the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force. (Baseline data available in 1992)

21.5 Assure that at least 90 percent of people for whom primary care services are provided directly by publicly funded programs are offered, at a minimum, the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force. (Baseline data available in 1992)

21.6 Increase to at least 50 percent the proportion of primary care providers who provide their patients with the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force. (baseline data available in 1992)

21.7 Increase to at least 90 percent the proportion of people who are served by a local health department that assesses and assures access to essential clinical preventive services. (Baseline data available in 1992)

21.8 Increase the proportion of all degrees in the health professions and allied and associated health profession fields awarded to members of underrepresented racial and ethnic minority groups as follows:

Degrees Awarded To:	1985-86 Baseline	2000 Target
Blacks	5%	8%
Hispanics	3%	6.4%
American Indians/Alaska Natives	0.3%	0.6%

22.1 Develop a set of health status indicators appropriate for Federal, State, and local health agencies and establish use of the set in at least 40 States. (Baseline: No such set exists in 1990)

22.2 Identify, and create where necessary, national data sources to measure progress toward each of the year 2000 national health objectives. (Baseline: 77 percent of the objectives have baseline data in 1990)

	1989 Baseline	2000 Target
State level data for at least two		

and older were taking action to control their blood pressure in 1985)

Taking Action to Control Blood Pressure	1985 Baseline	2000 Target
White hypertensive men aged 18-34	51%	80%
Black hypertensive men aged 18-34	63%	80%

15.6 Reduce the mean serum cholesterol level among adults to no more than 200 mg/dL. (Baseline: 213 mg/dL among people aged 20 through 74 in 1976-80, 211 mg/dL for men and 215 mg/dL for women)

15.7 Reduce the prevalence of blood cholesterol levels of 240 mg/dL or greater to no more than 20 percent among adults. (Baseline: 27 percent for people aged 20 through 74 in 1976-80, 29 percent for women and 25 percent for men)

15.8 Increase to at least 60 percent the proportion of adults with high blood cholesterol who are aware of their condition and are taking action to reduce their blood cholesterol to recommended levels (Baseline: 11 percent of all people aed 18 and older, and thus an estimated 30 percent of people with high blood cholesterol, were aware that their blood cholesterol level was high in 1988)

15.15 Increase to at least 75 percent the proportion of primary care providers who initiate diet and, if necessary, drug therapy at levels of blood cholesterol consistent with current management guidelines for patients with high blood cholesterol. (Baseline data available in 1991).

15.16 Increase to at least 50 percent the proportion of worksites with 50 or more employees that offer high blood pressure and/or cholesterol education and control activities to their employees. (Baseline: 16.5 percent offered high blood pressure activities and 16.8 percent offered nutrition education activities in 1985)

16.1 Reverse the rise in cancer deaths to achieve a rate of no more than 130 per 100,000 people (Age-adjusted baseline: 133 per 100,000 in 1987)

16.2 Slow the rise in lung cancer deaths to achieve a rate of no more than 42 per 100,000 people. (Age-adjusted baseline: 37.9 per 100,000 in 1987)

16.3 Reduce breast cancer deaths to no more than 20.6 per 100,000 women. (age-adjusted baseline: 22.9 per 100,000 in 1987(

16.4 Reduce deaths from cancer of the uterine cervix to no more than 1.3 percent 100,000 women. (Age-adjusted baseline: 2.8 per 100,000 in 1987)

16.5 Reduce colorectal cancer deaths to no more than 13.2 per 100,000 people (Age-adjusted baseline: 14.4 per 100,000 in 1987)

16.10 Increase to al least 75 percent the proportion of primary care providers who routinely counsel patients about tobacco use cessation, diet modification, and cancer screening recommendations. (Baseline: About 52 percent of internists reported counseling more than 75 percent of their smoking patients about smoking cessation in 1986)

17.1 Increase years of healthy life to at least 65 years. (Baseline: An estimated 62 years in 1980)

Years of Health Life	1980 Baseline	2000 Target
Blacks	56	60
Hispanics	62	65
People aged 65 and older	12	14

17.2 Reduce to no more than 8 percent the proportion of people who experience a limitation in major activity due to chronic conditions. (Baseline: 9.4 percent in 1988)

Prevalence of Disability	1988 Baseline	2000 Target
Low-income people (annual Family income <$10,000 in 1988)	18.9%	15%
American Indians/Alaska Natives	13.4%	11%
Blacks	11.2%	9%

17.9 Reduce diabetes-related deaths to no more than 34 per 100,000 people. (Age-adjusted baseline: 38 per 100,000 in 1986)

Diabetes-Related Deaths (per 100,000)	1986 Baseline	2000 Target

Neonatal mortality	6.5	4.5
Neonatal mortality among blacks	11.7	7
Neonatal mortality among Puerto Ricans	8.6	5.2
Postneonatal mortality	3.6	2.5
Postneonatal mortality among blacks	6.1	4
Postneonatal mortality among American Indians/Alaska Natives	6.5	4
Postneonatal mortality among Puerto Ricans	4.3	2.8

14.2 Reduce the fetal death rate (20 or more weeks of gestation) to no more than 5 per 1,000 live births plus fetal deaths. (Baseline: 7.6 per 1,000 live births plus fetal deaths in 1987)

Fetal Deaths	1987 Baseline	2000 Target
Blacks	12.8	7.5

14.3 Reduce the maternal mortality rate to no more than 3.3 per 100,000 live births. (Baseline: 6.6 per 100,000 in 1987)

Maternal Mortality	1987 Baseline	2000 Target
Blacks	14.2	5

14.4 Reduce the incidence of fetal alcohol syndrome to no more than 0.12 per 1,000 live births. (Baseline: 0.22 per 1,000 live births in 1987)

Fetal Alcohol Syndrome (per 1,000 live births	1987 Baseline	2000 Target
American Indians/Alaska Natives	4	2
Blacks	0.8	0.4

14.5 Reduce low birth weight to an incidence of no more than 5 percent of live births and very low birth weight to no more than 1 percent of live births. (Baseline 6.9 and 1.2 percent, respectively, in 1987)

	1987 Baseline	2000 Target
Low Birth Weight		
Blacks	12.7%	9%
Very Low Birth Weight		
Blacks	2.7%	2%

14.6 Increase to at least 85 percent the proportion of mothers who achieve the minimum recommended weight gain during their pregnancies. (Baseline: 67 percent of married women in 1990)

14.11 Increase to at least 90 percent the proportion of all pregnant women who receive prenatal care in the first trimester of pregnancy. (Baseline: 76 percent of live births in 1987)

Proportion of Pregnant Women Receiving Early Prenatal Care	1987 Baseline	2000 Target
Black women	61.1	90
American Indian/Alaska Native women	60.2	90
Hispanic women	61.0	90

14.12 Increase to al least 60 percent the proportion of primary care providers who provide age-appropriate preconception care and counseling. (Baseline data available in 1992)

14.16 Increase to at least 90 percent the proportion of babies aged 18 months and younger who receive recommended primary care services at the appropriate intervals. (Baseline data available in 1992)

15.4 Increase to at least 50 percent the proportion of people with high blood pressure whose blood pressure is under control. (Baseline: 11 percent controlled among people aged 18 through 74 in 1976-80; an estimated 24 percent for people aged 18 and older in 1982-84)

High Blood Pressure Control	1976-80 Baseline	1982-84 Baseline	2000 Target
Men with high blood pressure	6%	16%	40%

15.5 Increase to at least 90 percent the proportion of people with high blood pressure who are taking action to help control their blood pressure. (Baseline: 79 percent of aware hypertensives aged 18

From U.S. Department of Health and Human Services, 1990. Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Washington, D.C., U.S. Government Printing Office.

4.8 Reduce alcohol consumption by people aged 14 and older to an annual average of no more than 2 gallons of ethanol per person (Baseline: 2.54 gallons of ethanol in 1987)

8.9 Increase to at lease 75 percent the proportion of people aged 10 and older who have discussed issues relating to nutrition, physical activity, sexual behavior, tobacco, alcohol, other drugs. or safety with family members on at least one occasion during the preceding month.

11.3 Reduce outbreaks of waterborne disease from infectious agents and chemical poisoning to no more than 11 per year. (Baseline: Average 31 outbreaks per year during 1981-88) For people served by community water systems, tagert is no more than 6 per year. (Baseline: Average of 13 per year for 1981-88)

11.9 Increase to at lease 85 percent the proportion of people who receive a supply of drinking water that meets the safe drinking water standards established bt the Environmental Protection Agency. (Baseline: 74 percent of 58,099 community water systems serving approximately 80 percent of the population in 1988)

12.1 Reduce infections caused by key foodborne pathogens to incidences of no more than:

Disease (per 100,000)	1987 Baseline	2000 Target
Samonella species	18	16
Campylobacteria jejuni	50	25
Escherichia coli 0157:H7	8	4
Listeria monocytogenes	0.7	0.5

12.2 Reduce outbreaks of infections due to Samonella enteritidis to fewer that 25 outbreaks yearly. (Baseline: 77 outbreaks ion 1989)

12.3 Increase to at least 75 percent the proportion of households in which principal food preparers routinely refrain from leaving perishable food out of the refrigerator for over 2 hours and wash cutting boards and utensils with soap after contact with raw meat and poultry. (Baseline: For refrigeration of perishable foods, 70 percent; for washing cutting boards with soap, 66 percent; and for washing utensils with soap, 55 percent in 1988)

12.4 Extend to at least 70 percent the proportion of States and territories that have implemented model food codes for institutional food operations and to at least 70 percent the proportion that have adopted the new uniform food protection code ("Unicode") that sets recommended standards for regulation of all food operations. (Baseline: For institutional food operations currently using FDA's recommended model codes, 20 percent; for the new Unicode to be released in 1991, 0 percent in 1990)

13.1 Reduce dental caries (cavities) so that the proportion of children with one of more caries (in permanent or primary teeth) is no more than 35 percent among children aged 6 through 8 and no more than 60 percent among adolescents aged 15. (Baseline: 53 percent of children aged 6 through 8 in 1986-87; 78 percent of adolescents aged 15 in 1986-87) [See Healthy Pelple 2000 for special population targets and baselines.]

13.9 Increase to at least 75 percent the proportion of people served by community water systems: (Baseline: 62 percent in 1989)

13.11 Increase to at least 75 percent the proportion of parents and caregivers who use feeding practices that prevent baby bottle tooth decay. (Target 65 percent for parents and caregivers with less than high school education and American Indian/Alaska Native caregivers.)

14.1 Reduce the infant mortality rate to no more than 7 per 1,000 live births (Baseline: 10.1 per 1,000 live births in 1987

Specific Population Targets

Infant Mortality (per 1,000 live births)	1987 Baseline	2000 Target
Blacks	17.9	11
American Indians/Alaska Natives	12.5	8.5
Puerto Ricans	12.9	8

APPENDIX IV-1: ADDITIONAL FOOD AND NUTRITION OBJECTIVES FROM HEALTHY PEOPLE 2000

Appendix B

Table B-2. DISTRIBUTION* OF HUMAN NUTRITION RESEARCH AND TRAINING PROJECTS, BY HNRIM CLASSIFICATION CODE, FY 1988, BY PARTICIPATING FEDERAL AGENCY

HNRIM System Classification Code	TOTAL	AGENCIES (NO. PROJECTS) AID	HHS	DOC	DOD	NASA	USDA	VA
01-Maternal Nutrition	214	4	168				42	
02-Infant & Child Nutr.	364	6	300		1		56	1
03-Adolescent Nutrition	84		63		1		19	1
04-Adult Nutrition	140	1	59		3		77	
05-Nutrition of the Elderly	140		93				36	11
06-Cardiovascular Dis. & Nutr.	519		438	2			54	25
07-Cancer & Nutrition	554		491	1			36	26
08-Other Diseases & Nutr.	611	1	514	1			31	64
09-Trauma and Nutrition	32		26				5	1
10-Infection--Immunology & Nutr.	151		124				15	12
11-Obesity, Anorexia & Appetite	364		321				28	15
12-Genetics and Nutrition	221		200				20	1
13-Nutrition and Function	335	2	195		2	1	124	11
14-Nutrient Interactions	442		314				122	6
15-Other Conditions & Nutr.	647		599			1	40	7
16-Nutritional Status	352	2	187				155	8
17-Carbohydrates	237		146				76	15
18-Lipids (Fats & Oils)	601		411	4			156	30
19-Alcohols	73		58				2	13
20-Proteins & Amino Acids	449		299			1	130	19
21-Vitamins	583	7	433				108	35
22-Minerals & Trace Elements	533	4	345				163	21
23-Water & Electrolytes	142		122				17	3
24-Fiber	70		28				35	7
25-Other Nutrients in Food	121		65				50	6
26-Food Composition	290		49	3			238	
27-Bioavailability of Nutrients	154	2	37				113	2
28-Effects of Technology	301	2	43				255	1
29-Other Res. in Food Sciences	117	1	29				87	
30-Food Consumption Surveys	79		26		1		52	
31-Dietary Practices & Determin.	345	3	215		2		125	
32-Res. on Public Education	73		40		1		31	1
33-Other Res. in Nutr. Ed.	39		18				19	2
34-Govt. Policy & Socioeconomics	56	1	10				45	
35-Parent., Enteral, Elem. Nutr.	132		86				1	45

* A project (grant or contract) may be assigned to more than one of these classification codes and is not intended to total 100%.

From Interagency Committee on Human Nutrition Research, 1990. Seventh Progress Report, The Human Nutrition Research and Information Management System, Fiscal Year 1988. U.S. Department of Health and Human Services.

APPENDIX III-1: FEDERAL RESEARCH ACTIVITIES

reduced cattle and hog prices and, consequently, pork production.

Although Americans consume nearly the same amount of pork per person as 35 years ago, that same amount now contains more meat. On a pound-for-pound basis, today's pork meat is leaner, consisting of more meat and less fat than supplies in 1955.

Eggs. Total annual per capita consumption of eggs has declined steadily since the peak 403 eggs at the end of World War II. But consumption did not decline for all products. Between 1970 and 1990, consumption of fresh eggs decreased from 276 to 187, while consumption of egg products rose from 33 to 49. Egg product consumption grew rapidly between 1980 and 1990 (40%) along with expanded use as manufacturing ingredients in a number of food products (such as pasta and sweet baked goods) and increased use in fast food outlets and other foodservice establishments.

Source: Morrison, Rosanna M. and Judy Putnam, 1991. "Lower Fat Foods: New Technology, Increased Demand." Agricultural Outlook, October, 1991.

person). On a per capita basis, Americans annually consumed roughly 18 pounds of butter and 270 pounds of whole milk in the 1920's and 1930's, compared with less than 5 pounds of butter and less than 90 pounds of whole milk in 1990.

Within the fluid milk category, there has been a significant and steady substitution with lowfat and skim milks. During the early 1970's, 76% of all the milk consumed as a beverage was whole milk. But by 1990, whole milk had fallen to 41% of total beverage milk, and consumption of lowfat milk more than doubled. An increase of lowfat fluid milk uses--lowfat milk, skim milk, and yogurt (which is predominantly lowfat and nonfat)--was not, however, high enough to offset the decline in whole milk. Total fluid milk consumption declined 16%.

Three factors may be lowering per capita consumption of beverage milk. First, Americans are getting older, and adults drink less milk than children. Second, increases in snacking and eating away from home, especially in fast food outlets, are prompting Americans to drink more soft drinks and beer. Third, increased concerns about cholesterol and fat, particularly animal fat, may be causing Americans to drink less milk. Americans, particularly middle-aged people fighting weight gain, doubled their consumption of low-calorie soft drinks and light beer in the 1980's.

While these factors may be influencing Americans to eat drink less milk, the same is not true for fluid cream products or cheese. Per capita consumption of fluid cream products (half and half, light cream, heavy cream, commercially-prepared eggnog, and sour cream and dips) rose about 50% in the past 20 years. Cheese use increased even more--almost doubling. Part of the growth in cheese is in the ingredient and away-from-home markets. Rapidly expanding pizza sales and changes in lifestyles that emphasize convenience foods are probably major forces affecting cheese trends.

Meat, Poultry, and Fish. U.S. beef consumption is at its lowest level since the early 1960's. Per capita consumption of beef (on a boneless, trimmed-weight basis) in 1990 was 15 pounds lower than in 1970-74, and 25 pounds below the all-time high of 89 pounds in 1976, when beef supplies reached record highs after the liquidation of the Nation's beef herd.

Per capita consumption of poultry products has climbed steadily since the 1970's, amounting to 64 pounds (on a boneless basis) by 1990.

Per capita pork consumption (on a boneless-trimmed weight) has remained fairly stable over time. At 47 pounds per person, average annual consumption for 1985-89 was just 0.5 pounds below that in 1970-74 and 2 pounds below 1955-59. There have been minor variations in the trend, however. At 42 pounds person, average annual pork consumption for 1975-79 was unusually low, because the large beef supplies from the liquidation of the huge beef herd

significant increase in per capita use of processed citrus juice more than offset a small decline in use of fresh citrus fruit. Increases in use of frozen fruits and dried fruits offset decreases in use of canned fruits.

Greater use of processed citrus juice, mostly frozen orange juice, was primarily responsible for an increase in Vitamin C from 105 to 118 mg per capita per day between 1970 and 1988. Processed citrus juices also contributed to the small increase in folate from 275 to 284 ug.

Vegetables. Total per capita annual consumption of 12 commercial fresh vegetables in 1985-89 averaged 20 pounds higher than in 1970-74 (Fig.B.2.8). Half of the increase occurred in the late 1980's. Use of dark green and deep yellow vegetables increased significantly. For example, total use of fresh and frozen broccoli increased 4 pounds per person between 1970-74 and 1985-89, and use of fresh carrots increased 1.5 pounds per person.

Potato consumption per person, like grain consumption, increased in recent years after falling dramatically from the levels of the first half of the century (Fig.B.2.9). The most significant change over the past 30 years has been the rise of frozen potato use and the decline in fresh use. In 1959/60, only 4% of the crop was processed into frozen potato products. However, in 1989/90, 32% of all potatoes grown in the United States were processed into frozen products (largely french fries). The popularity of fast-food restaurants lies behind much of the shift toward frozen potato use. In 1989, about 87% of frozen french fries were sold through foodservice outlets.

Nuts. Total average annual per capita consumption of peanuts and tree nuts rose nearly 1.5 pounds from 1970-74 to 1985-89, to 8.9 pounds. In 1985-89 Americans consumed, on average, 6.6 pounds of peanuts and 2.3 pounds of tree nuts annually.

Fats and Oils. Emphasizing the current concerns about high levels of fat consumption in the United States, U.S. per capita food supplies of fats and oils increased 20% from 1970-74 to 1985-89 to 63 pounds per person (on a fat-content basis). Americans used 10 pounds more fats and oils per person in 1990 than in 1970. Quantities of fats and oils in the food supply are measured by the manufacture of products such as shortening, margarine, and salad and cooking oils. Data include all fats and oils except those occurring naturally in food, such as in meats, milk and milk products, and nuts.

Dairy Products. Average annual per capita consumption of dairy products (on a milk-equivalent, milkfat basis) for 1985-89 rose 8% over 1975-79 because of greater use of cheese and fluid cream products. Despite the modest increase in the 1980's, average annual per capita consumption for 1985-89 (at 587 pounds per person) was still less than three quarters of what it was during the peak consumption years of 1922-42 (at just over 800 pounds per

Appendix II-3.: Per Capita Availibility of Food Products

Flour and Cereal Products. Consumption of flour and grains increased in recent years, after falling dramatically from the levels of the first half of the century. Per capita use of flour and cereal products reached 185 pounds in 1990, compared with an annual average of 148 pounds in 1980-84, 135 pounds in 1970-74, 204 pounds in 1945-49, and 287 pounds in 1910-15. Most of the increase in grain use in the past 20 years has occurred since the mid-1980's, resulting in a substantial gain in the level of carbohydrate between 1984 and 1988, from 399 to 425 grams per capita per day.

Wheat flour is the major grain product eaten in the United States, with wheat flour and other wheat products representing 74% of total grain consumption in 1990. However, wheat's share of total grain consumption has declined 6 percentage points since 1980, as rice, corn products, and oat products have gained momentum. Greater use of wheat flour and higher federal standards for the enrichment of white flour with thiamin, riboflavin, and niacin, enacted in 1975, and for iron in 1983, were major factors behind the increase in these nutrients since 1970. Grain products also contributed to increases in zinc, copper, and phosphorus as well.

Sweeteners. Consumption of total caloric sweeteners (on a dry weight basis) increased 15 pounds per person between 1970 and 1990, to 138 pounds. Per capita use of corn sweeteners nearly quadrupled during the same period, surpassing refined (cane and beet) sugar use in 1985. High-fructose corn syrup largely replaced sugar in soft drinks. Soft drink consumption per capita topped 42 gallons in 1990, compared with 35 gallons in 1980-84 and 26 gallons in 1970-74. Greater use of corn sweeteners was primarily responsible for the increase in carbohydrate between 1970 and 1984, from 382 to 399 grams per capita per day, although increased use of grains also contributed to the gain.

Refined sugar use dropped from just over 100 pounds per person in the early 1970's to 60 pounds in 1986. Since 1986, however, consumption of refined sugar increased 4 pounds per person. Higher consumption of bakery and cereal products has helped push the increase.

Use of low-calorie, or high-intensity, sweeteners (mainly aspartame and saccharin) increased faster than caloric sweeteners in the 1980's. By 1988, low-calorie use was about 20 pounds per person (in sugar-sweetness equivalent) or about 13 percent of overall sweetener consumption.

Fruits. Fresh fruit consumption gained 14 pounds per capita from the 1970-74 annual average to a total of 94 pounds in 1985-89 (Fig.B.2.8). The rise was due entirely to sharp increases in consumption of fresh noncitrus fruits. During the same period, a

the EPONM believed that such studies were more appropriate in a clinical setting than in the surveys of the NNMS.

- The elderly are also a group that may be at risk of malnutrition because of physiological changes, physical or mental impairments, or social factors. This group has not been adequately represented in all NNMS surveys, little is known about how their nutritional requirements may differ from younger adults, and their numbers are increasing rapidly. There has been no upper age limit in most of the dietary surveys conducted by USDA. The CSFII 1985–86 included no adults older than 50 years, but the current and future CSFII will include persons of all ages. In the past, HANES excluded persons older than 74 years, but NHANES III has no upper age limit. Elderly persons should be sampled in sufficient numbers to permit assessment of subgroups, for example, "elderly" (65–74 years), "aged" (75–84 years), and "very old" (85 years and over).

- Children aged 1–5 years also represent a group vulnerable to malnutrition and disorders related to diet and nutrition, such as dental caries and lead poisoning. One particular concern of the EPONM with respect to this group was the validity of proxy reports on dietary intake, especially in the case of parents reporting the intakes of children in day care or in school. Efforts should be made to test the validity of such reports or to find alternatives for obtaining intake information.

- Some members of the EPONM concluded that adolescents also represent a group at nutritional risk. Some of the factors related to concern about this group are the different levels of maturation, the nutritional requirements of the adolescent growth spurt, the frequency of eating away from home, the prevalence of dieting and eating disorders, and the nutritional demands of teenage pregnancy.

Dietary Data in the HANES

One-day dietary data, such as those collected in the HANES, do not provide information on the distribution of usual intakes; thus, a meaningful assessment of the cross-sectional association of dietary intake and health status cannot be made. Increasing the number of days of data collection would permit some assessment of intraindividual variation in intake and improve estimates of usual intake. Limitations would still exist in examining cross-sectional associations of diet and health status (see chapter 5); however, improved dietary intake data would be very helpful for planned followup studies of HANES populations.

Knowledge and Attitudes

Some members of the Panel recommended that questions on dietary and nutrition knowledge and attitudes be included in surveys that estimate usual dietary intake or dietary pattern. In the data available for this report, the EPONM found little information relating knowledge and attitudes to practices.

Vitamin and Mineral Supplements

The Panel could not evaluate total nutrient intake using the available data – none of the available surveys that assess nutrient intake from food include quantitative estimates of nutrient intake from supplements. The ability to examine excessive intakes, and possibly to assess consequences of nutrient toxicity, would be enhanced if such measures were included to provide more accurate assessments of total levels of nutrients consumed. Such information would also shed light on whether the dietary intakes of some nutrients are truly marginal.

Alcohol Consumption

Alcohol intake can influence dietary intake, nutritional status, and health status. The EPONM noted limitations in survey data on individual alcohol intake currently available. The HHANES included an extensive questionnaire on alcohol use, but data were not available to the Panel. The EPONM recommends that efforts be continued to improve the quantitative assessment of alcohol intake in NNMS surveys.

Nonresponse Analyses

In its analyses of the available data, the EPONM was concerned about the possibility of bias in national estimates because of nonresponse in the surveys. The Panel was reluctant to use some of the data in which response was less than 50 percent. Therefore, the Panel recommends that every effort be made to improve current response rates. Methods for improving response rates, such as monetary and other incentives, should be tested, especially in the USDA surveys in which such techniques have not been

attempted. Current efforts to collect as much information as possible on nonrespondents by increasing the information collected in screening questionnaires, performing followup studies of nonrespondents, and conducting proxy interviews to obtain information on nonrespondents should be extended. The USDA and NCHS have conducted detailed analyses of nonresponse (discussed in the current report) in their recent surveys; such analyses should be made available to data users.

Education of Data Users

The EPONM noted that some of the published reports based on NNMS data, primarily those produced by investigators using public release data tapes or working under Agency contracts, failed to use appropriate procedures to account for sample weights and design effects inherent in these complex surveys. Thus, the EPONM strongly recommends that the Agencies continue and increase efforts to educate users on appropriate use of survey data. These efforts may take such forms as publications on statistical issues, workshops, and/or greater documentation for data tapes made available to investigators, and may require additional Agency staff with statistical expertise. In those situations where analyses are proposed as part of a contractual activity, it is incumbent on the funding Agency to ensure that the review of such proposals include an evaluation of the understanding and ability of the investigators to analyze data from a complex survey.

Responsiveness to Needs of State and Local Data Users

The Panel was aware of a desire by public health personnel in many States and localities to use NNMS data. The CDC surveillance activities are State-based, but the nationally representative surveys do not generate State- or local-level data. Nonetheless, policy makers in the States and localities need to know how to use national data, the implications of national data in terms of the State or locality, and how to "dovetail" State or local surveys more efficiently with national surveys. State and other officials who are responsible for implementation of the National Nutrition Objectives need ways to monitor status and progress in achieving these objectives. The Panel encourages more interaction of Federal and State data collection activities and research on the value and validity of synthetic estimates for States and other localities.

Research Needs

The EPONM noted many research needs in the course of reviewing the analyses included in this report, but wishes to highlight two issues:

- Development of methods for the assessment of dietary adequacy (and nutrient excess) to reduce reliance on the RDA as a standard for nutrient intake.

- Development of measures of status for food components identified as current public health concerns, such as calcium. Improved and/or validated measures of obesity, energy intake, and physical activity are also needed.

Future Reports on the NNMS

The integration of the currently available dietary and nutrition-related health status data from the two major surveys of the NNMS (the NFCS and the HANES) to assess the dietary and nutritional status of the U.S. population is a major contribution of reports such as this one and that of the JNMEC. Data from these surveys and other NNMS sources can also be used to provide a detailed analysis and summary of specific issues related to diet, nutrition, and health. The Panel's experiences, as amplified below, indicate that presentations of both updated information on status and detailed analyses are appropriate, valuable, and feasible objectives for such reports.

Content of Reports

The EPONM recommends that reports presenting updated information on dietary and nutritional status and reports presenting detailed analyses on special topics be prepared separately. In the Panel's experience, trying to accomplish both in the same report was overly ambitious.

- Update reports may take a variety of forms. One option is a relatively comprehensive discussion and analysis of available dietary and nutritional status data containing conclusions regarding public health significance and monitoring priority, such as the JNMEC report and chapters 3 and 4 in the current report. Another possibility is the tabulation of the most recent data, with limited interpretation, in a format similar to that used for *Health: United States*. These two alternatives are especially

appropriate in view of the increasing trend for continuous data collection in the NNMS. Consideration might also be given to studying the development of a set of "leading indicators" (similar to leading economic indicators) that potentially could rapidly monitor changes in food consumption and nutritional status of the population. Such indicators need not be direct measures of food consumption or biochemical measures related to nutritional status, but might consist of data already collected for other purposes, such as food expenditures or participation in food and nutrition programs, that may reflect dietary and nutritional status.

- Reports of detailed analyses on special topics could alternate with update reports or could be prepared concurrently (but separately, as the need for such reports is identified and the data become available). For such reports, the assistance of consultants with a wide range of expertise within the specified subject area would be most helpful. The types and depth of expertise needed would differ for different topics. Some topics for consideration are listed below (not all of these topics could be undertaken with existing data).

  - The impact of supplement use on nutrient intake, nutritional status, and health status.
  - The nutritional and dietary status of the elderly.
  - The impact of consumption of food away from home on dietary status.
  - The impact of social changes such as single-parent and two-income households on dietary practices and nutritional status.
  - The impact of "dieting" behavior on dietary patterns and nutritional status.

Frequency of Reports

Difficulties in interpretation arise if update reports are prepared too frequently: little detectable change in dietary or nutritional status of the population would be expected in short time periods and appropriate data for desired analyses may not be available at short intervals. The latter was true of the EPONM's review; the major sources of data available for the update of dietary and nutritional status were limited in coverage of age and sex groups (CSFII 1985-86) and ethnic groups (HHANES). In addition, analyses of dietary intake data from HHANES were not completed for the EPONM review. These factors limited the ability of the Panel to meet the charge to update information on the nutritional status of the U.S. population and raised concerns about the timeliness of data release from some surveys. Planned schedules for release of data from current surveys will resolve concerns about the timeliness of data available, provided that the Agencies are allocated adequate staff and resources to meet the planned schedules. Reports intended to update information on the nutritional status of the U.S. population should be timed according to the availability of data from the two major components of the NNMS. Thus, the next major update report should be planned to incorporate data from the first half of NHANES III (1988-91), the NFCS 1987-88, and 1989-91 cycles of the CSFII (all of these data should be available in 1993). In addition, the most recent food supply data and data from other NNMS activities should be included. In intervening years in which reports on the NNMS are mandated, more limited update reports or reports on special topics should be prepared.

The NNMS of the Future

The recommendations above are predicated on the Panel's experiences in analyzing the NNMS data in this report, the recognition that most suggested changes cannot be made in ongoing surveys for several years, and the probability that the basic structure of the NNMS will remain the same. The EPONM believes that it is appropriate now to begin efforts to determine the most useful form of the NNMS in the future. The main considerations that should drive the introduction of changes to make the separate components function more effectively as a system are the needs of data users, especially policy makers. One obvious need is for data that permit the assessment of progress on implementing the National Nutrition Objectives for the Year 2000 at the midcourse review (1995) and at the end of the decade. Planning for the future of the NNMS should include a poll of data users to determine unmet needs and should proceed with cooperation between the Agencies from the highest to the lowest level. With such direction and cooperation, the best features of the existing NNMS can be retained and an even better system can be constructed.

References Cited

National Research Council, Coordinating Committee on Evaluation of Food Consumption Surveys. 1984. *National Survey Data on Food Consumption: Uses and Recommendations*. Washington: National Academy Press.

Perloff, B. 1988a. Assessment of Change in Total Fat Data 1977-1985. Prepared for Expert Panel on Nutrition Monitoring.

Perloff, B. 1988b. Assessment of Change in Iron Data 1977-1985. Prepared for Expert Panel on Nutrition Monitoring.

U.S. Department of Health and Human Services and U.S. Department of Agriculture. 1986. *Nutrition Monitoring in the United States--A Progress Report from the Joint Nutrition Monitoring Evaluation Committee*. DHHS Pub. No. (PHS) 86-1255. Public Health Service. Washington: U.S. Government Printing Office.

APPENDIX IV-3: RECOMMENDATIONS FROM : IMPROVING AMERICA'S DIET AND HEALTH: FROM RECOMMENDATIONS TO ACTION

From the Institute of Medicine (U.S.). Committee on Dietary Guidelines Implementation. Improving America's diet and health: from recommendations to action/ a report of the Committee on Dietary Guidelines Implementation, Food and Nutrition Board; Paul R. Thomas, editor.

APPENDIX

B

Summary of Committee's Major Recommendations

PRINCIPAL IMPLEMENTATION STRATEGIES

1. Governments and health-care professionals must become more active as policymakers, role models, and agenda setters in implementing dietary recommendations.
2. Improve the nutrition knowledge of the public and increase the opportunities to practice good nutrition.
3. Increase the availability of health-promoting food.

RECOMMENDATIONS TO THE PUBLIC SECTOR

STRATEGY 1: Improve federal efforts to implement dietary recommendations.

ACTION 1: *The executive branch should establish a coordinating mechanism that would promote the implementation of dietary recommendations.*

ACTION 2: *Encourage members of the U.S. Congress and state legislative bodies to play active roles in the implementation of dietary recommendations.*

STRATEGY 2: Alter federal programs that directly influence what Americans eat so as to encourage rather than impede the implementation of dietary recommendations. This effort should affect food assistance, food safety, and

nutrition programs, as well as farm subsidy, tariff, and trade programs.

ACTION 1: *Revise current U.S. Department of Agriculture (USDA) regulations governing the child and family nutrition programs to comply with dietary recommendations and train federal, regional, state, and local personnel administering the programs to implement the recommendations.*

ACTION 2: *Revise current regulations governing the Nutrition Program for Older Americans (which provides congregate meals and home-delivered meals) to conform to the principles of dietary recommendations and train federal, regional, state, and local personnel administering the programs accordingly.*

ACTION 3: *USDA and the U.S. Department of Health and Human Services (DHHS) should ensure that food and health programs serving all special populations conform to dietary recommendations.*

ACTION 4: *Ensure that the education and information components of the foregoing federal food assistance and nutrition programs are consistent with dietary recommendations.*

ACTION 5: *Incorporate dietary recommendations into current rules and regulations governing commodity purchases.*

STRATEGY 3: Change laws, regulations, and agency practices that have an appreciable but indirect impact on consumer dietary choices so that they make more foods to support nutritionally desirable diets available. Examples are food grading and labeling laws and standards of identity for a number of food products.

ACTION 1: *Improve food labeling and food description, production, and processing regulations to permit consumers to make better informed choices.*

ACTION 2: *Develop and adopt regulations governing food descriptions, grading, and nomenclatural practices.*

ACTION 3: *Improve the nutritional attributes of animal products.*

STRATEGY 4: Enable government feeding facilities to serve as models to private food services and help people meet dietary recommendations.

ACTION 1: *The Office of the Secretary of the U.S. Department*

of Veterans Affairs should direct its health-care personnel to follow dietary recommendations in all of its food and health care systems.

ACTION 2: *The surgeons general of the Army, Navy, and Air Force within the Department of Defense (DOD) should develop a plan for implementing dietary recommendations in all aspects of the DOD food and health-care systems.*

ACTION 3: *The DOD's food and beverage services and practices should be revised to conform to dietary recommendations.*

ACTION 4: *Urge the director of the Federal Bureau of Prisons to examine the feasibility of providing diets in line with dietary recommendations, recognizing the complexity of the correctional system and the special role of food in correctional facilities.*

ACTION 5: *The General Services Administration should ensure that food contracts and monitoring systems are made to conform to the principles of dietary recommendations.*

ACTION 6: *Department secretaries should encourage government employees to consume diets that meet dietary recommendations.*

ACTION 7: *The U.S. government personnel ultimately responsible for funding official meal functions should offer meals that are consistent with the principles of dietary recommendations.*

STRATEGY 5: Develop a comprehensive research, monitoring, and evaluation plan to achieve a better understanding of the factors that motivate people to modify their eating habits and to monitor the progress toward implementation of dietary recommendations.

ACTION 1: *The secretaries of USDA and DHHS should mandate increased amounts of intramural research that relate to implementation of dietary recommendations and give high priority to the funding of extramural research in this area.*

ACTION 2: *Improve the National Nutrition Monitoring System and provide it with adequate resources.*

RECOMMENDATIONS TO THE PRIVATE SECTOR

STRATEGY 1: Promote dietary recommendations and motivate consumers to use them in selecting and preparing foods and in developing healthful dietary patterns.

ACTION 1: *Make consumers aware of dietary recommendations and their importance and how available products and services can be used to meet them.*

ACTION 2: *Contribute to efforts to improve the nutrition labeling of food so that it better assists consumers in making informed, nutritionally desirable food choices.*

ACTION 3: *Provide consumers with information at points of purchase so that they may assess quickly some of the nutrition attributes of specific products and brands.*

STRATEGY 2: Continue to increase the availability of a wide variety of appealing foods that help consumers to meet dietary recommendations.

ACTION 1: *Develop more nutritionally desirable products that appeal to consumers.*

ACTION 2: *Contribute to efforts to revise, or develop as appropriate, food-quality criteria (such as standards of identity and grading), pricing structures, and food product descriptors to promote the production of more nutritionally desirable food products.*

ACTION 3: *Engage in practices leading to the greater availability of nutritionally desirable products that will assist consumers in meeting dietary recommendations.*

RECOMMENDATIONS TO HEALTH-CARE PROFESSIONALS

STRATEGY 1: Raise the level of knowledge among all health-care professionals about food and nutrition and the relationships between diet and health.

ACTION 1: *Establish within the faculty of every health-care professional school an identifiable program with overall responsibility for planning and developing a research and education agenda in human nutrition.*

ACTION 2: *Establish a program within the Public Health Service to support the training of faculty in nutrition. The goal should be at least one nutrition faculty member per health-care professional school for each of the licensed graduate programs in the health-care professions.*

ACTION 3: *Materials emphasizing dietary recommendations for students in the health-care professions should be prepared by curriculum committees, authors, publishers, and others with in-*

terests in curriculum development. Such materials should include course syllabi at varying levels of complexity, batteries of examination questions, relevant bibliographic listings, audiovisual teaching instruments, and self-education computer programs.

ACTION 4: *Expand nutrition education of health-care professionals at all levels. Certification and licensing bodies involved in the education of health-care professionals should require a demonstrated knowledge of nutrition.*

STRATEGY 2: Contribute to efforts that will lead to health-promoting dietary changes for health-care professionals, their clients, and the general population.

ACTION 1: *Encourage efforts to implement dietary recommendations in a coordinated manner for maximum effectiveness and to avoid unnecessary duplication.*

ACTION 2: *Encourage all health-care professionals to integrate nutrition information into their multiple counseling, treatment, skills training, and follow-up sessions with individual clients and patients.*

ACTION 3: *Provide leadership, resources, and personnel for the dissemination of sound nutritional advice.*

ACTION 4: *Working as individuals or through professional societies, provide guidance to regulatory and legislative bodies concerned with the establishment of dietary standards and with rules and policies governing the production, harvesting, processing, preservation, distribution, and marketing of food products.*

ACTION 5: *Specialists in human nutrition and food science, working through their professional organizations, should distribute practical information such as menus, recipes, and ideas for health promotion initiatives to private and public providers of meals.*

ACTION 6: *Serve as role models by following dietary recommendations (and practicing other healthy behaviors) as often as possible.*

STRATEGY 3: Intensify research on the relationships between food, nutrition, and health and on the means to use this knowledge to promote the consumption of healthful diets.

ACTION 1: *Encourage sponsors of research to give high priority to research into diet and disease relationships and to developing innovative ways to use that knowledge in educating health-care professionals and the public about nutrition.*

RECOMMENDATIONS FOR EDUCATION OF THE PUBLIC

STRATEGY 1: Ensure that consistent educational messages about dietary recommendations reach the public.

ACTION 1: *Initiate meetings of leaders and representatives of national groups (e.g., interest groups, professional associations, and Cooperative Extension Service educators) to explore common interests in implementing dietary recommendations and to develop a series of common educational initiatives related to the attainment of that goal.*

ACTION 2: *Review materials on diet and health prepared for the public by various professional groups and organizations to achieve consistency and ensure compatibility with dietary recommendations.*

ACTION 3: *Convene an ad hoc committee composed of authors and publishers of leading nutrition textbooks to develop a series of broad guidelines that publishers could use to provide in their publications consistent and authoritative information on dietary recommendations and their scientific rationale.*

ACTION 4: *Constitute a panel to review and evaluate nutrition education materials made available to schoolteachers from various food industry sources.*

STRATEGY 2: Incorporate principles, concepts, and skills training that support dietary recommendations into all levels of schooling—kindergarten through college.

ACTION 1: *Design a model curriculum for teaching food skills, nutrition, and health from kindergarten through grade 12.*

ACTION 2: *During the development of the curriculum proposed in Action 1, identify teacher-tested lessons—on health, nutrition, and food selection and preparation skills—suitable for use in a variety of classroom settings at different grade levels.*

ACTION 3: *Professional nutrition, health promotion, and education organizations in each state should organize their members*

(and through their members, local parents) to lobby state legislatures and urge state boards of education to mandate the inclusion of at least one food skills, nutrition, and health course in the requirements for teacher preparation in each state.

ACTION 4: *Revive, at the level of at least $0.50 per student, the USDA-administered Nutrition Education and Training (NET) Program that stimulated so much activity related to nutrition education in the late 1970s.*

ACTION 5: *Offer a nutrition course or, at a minimum, a life science course with a well-developed nutrition component at institutions of higher learning.*

ACTION 6: *Offer each student in grades 7 through college on a periodic basis (e.g., every 3 years) a computer analysis of his or her diet and a professional evaluation of how the student's food habits conform to dietary recommendations.*

STRATEGY 3: Ensure that children in child-care programs (including out-of-home care programs and family-, group-, or center-based programs) receive nutritious meals served in an environment that takes account of the importance of food in children's physical and emotional well-being.

ACTION 1: *Establish an interdisciplinary task force to oversee food-related matters involving children in child-care programs. This task force would include experts in pediatrics, nutrition, psychology, anthropology, and child development, along with child-care providers and parents.*

ACTION 2: *Public policy committees in nutrition, medical, and other health-related organizations should work to develop and pass legislation to require that foods served to children help them to meet dietary recommendations. The Child and Adult Care Food Program standard of USDA should be used as a quality minimum.*

STRATEGY 4: Enhance consumers' knowledge and the skills they need to meet dietary recommendations through appropriate food selection and preparation.

ACTION 1: *Develop a consumer manual to present strategies that can be used to influence local food providers (and others who play important roles in the food system) to increase the availability of foods that help people meet dietary recommendations.*

ACTION 2: *Prepare an inexpensive, continually updatable foods data bank to inform consumers, food planners, and others about the nutritional content, composition, and production/processing history of the products available to them.*

STRATEGY 5: Establish systems for designing, implementing, and maintaining community-based interventions to improve dietary patterns.

ACTION 1: *Professional organizations concerned with food, nutrition, and health should work to engage community leaders in the development of community-based programs promoting dietary recommendations.*

ACTION 2: *Encourage schools of higher learning in various regions of the country to develop programs for educating and updating individuals in the skills needed to play key roles in community-based nutrition education programs.*

STRATEGY 6: Enlist the mass media to help decrease consumer confusion and increase the knowledge and skills that will motivate and equip consumers to make health-promoting dietary choices.

ACTION 1: *Develop a series of social marketing campaigns to disseminate dietary recommendations.*

ACTION 2: *Appoint a committee of experts in nutrition education, child development, social influence, and media to review past attempts to regulate television food advertising to children.*

ACTION 3: *Appoint a standing committee to coordinate the vast number of media activities necessary to increase consumer knowledge about dietary recommendations and their application and to decrease consumer confusion.*

ACTION 4: *Establish a task force of social scientists to examine the utility of national entertainment television as a community-organizing tool that can be used to enhance efforts of local health agencies in encouraging appropriate dietary changes.*

DIRECTIONS FOR RESEARCH

1. Improve methods to characterize what people actually eat, especially over long periods during which dietary patterns change.
2. Increase understanding of the existing and potential determi-

nants of dietary change and how this knowledge can be used to promote more healthful eating behaviors.

3. Continue research to develop new food products and modify both the production and processing of existing products to help consumers more easily meet dietary recommendations.

4. Review and improve government and private-sector policies that directly and indirectly affect the availability of particular foods and the promotion of healthful dietary patterns.

5. Determine how implementors of dietary recommendations at all levels (e.g., supermarket managers, physicians, and high school health teachers) can more effectively teach the basis of the recommendations and motivate people to follow them.

6. Investigate the costs and benefits of implementing dietary recommendations as proposed by this committee and by others.

APPENDIX IV-4: NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT AND THE 10-YEAR PLAN FOR NUTRITION MONITORING IN THE UNITED STATES

The National Nutrition Monitoring and Related Research Act

NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1990

Public Law 101-445
101st Congress

An Act

To strengthen national nutrition monitoring by requiring the Secretary of Agriculture and the Secretary of Health and Human Services to prepare and implement a ten-year plan to assess the dietary and nutritional status of the United States population, to support research on, and development of, nutrition monitoring, to foster national nutrition education, to establish dietary guidelines, and for other purposes.

Oct. 22, 1990
[H.R. 1608]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

National Nutrition Monitoring and Related Research Act of 1990.
Intergovernmental relations.
Business and industry.
Health professions.
Science and technology.
7 USC 5301 note
7 USC 5301

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Nutrition Monitoring and Related Research Act of 1990".

SEC. 2. PURPOSES.

The purposes of this Act are to—

(1) make more effective use of Federal and State expenditures for nutrition monitoring, and enhance the performance and benefits of current Federal nutrition monitoring and related research activities;

(2) establish and facilitate the timely implementation of a coordinated National Nutrition Monitoring and Related Research Program, and thereby provide a scientific basis for the maintenance and improvement of the nutritional status of the people of the United States and the nutritional quality (including, but not limited to, nutritive and nonnutritive content) of food consumed in the United States;

(3) establish and implement a comprehensive plan for the National Nutrition Monitoring and Related Research Program to assess, on a continuing basis, the dietary and nutritional status of the people of the United States and the trends with respect to such status, the state of the art with respect to nutrition monitoring and related research, future monitoring and related research priorities, and the relevant policy implications;

(4) establish and improve the quality of national nutritional and health status data and related data bases and networks, and stimulate research necessary to develop uniform indicators, standards, methodologies, technologies, and procedures for nutrition monitoring;

(5) establish a central Federal focus for the coordination, management, and direction of Federal nutrition monitoring activities;

(6) establish mechanisms for addressing the nutrition monitoring needs of Federal, State, and local governments, the private sector, scientific and engineering communities, health care professionals, and the public in support of the foregoing purposes; and

(7) provide for the conduct of such scientific research and development as may be necessary or appropriate in support of such purposes.

SEC. 3 DEFINITIONS. 7 USC 5302.

As used in this Act—

(1) the term "comprehensive plan" means the comprehensive plan prepared under section 103;

(2) the term "coordinated program" means the National Nutrition Monitoring and Related Research Program established by section 101(a);

(3) the terms "Interagency Board for Nutrition Monitoring and Related Research" and "Board" mean the Federal coordinating body established by section 101(c);

(4) the term "Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System" means the plan of that title dated August 18, 1981 and submitted by the Department of Agriculture and the Department of Health and Human Services under section 1428 of the Food and Agriculture Act of 1977 (7 U.S.C. 3178);

(5) the term "local government" means a local general unit of government or local educational unit;

(6) the terms "National Nutrition Monitoring Advisory Council" and "Council" mean the advisory body established under section 201;

(7) the term "nutrition monitoring and related research" means the set of activities necessary to provide timely information about the role and status of factors that bear on the contribution that nutrition makes to the health of the people of the United States, including—

(A) dietary, nutritional, and health status measurements;

(B) food consumption measurements;

(C) food composition measurements and nutrient data banks;

(D) dietary knowledge and attitude measurements; and

(E) food supply and demand determinations;

(8) the term "nutritional quality" means—

(A) the appropriate levels of individual nutrients in the diet;

(B) the appropriate levels between nutrients in the diet;

(C) the bioavailability of nutrients such as absorption, digestion, and utilization; and

(D) the nutritional importance of nonnutrient substances such as fiber, phytate, and such substances that are naturally found in the food supply; and

(9) the term "Secretaries" means the Secretary of Agriculture and the Secretary of Health and Human Services, acting jointly.

TITLE I—NUTRITION MONITORING AND RELATED RESEARCH

SEC. 101. ESTABLISHMENT OF THE COORDINATED PROGRAM. 7 USC 5311.

(a) IN GENERAL.—There is established a ten-year coordinated program, to be known as the National Nutrition Monitoring and Related Research Program, to carry out the purposes of this Act.

(b) IMPLEMENTATION RESPONSIBILITY.—The Secretaries shall be responsible for the implementation of the coordinated program.

(c) ESTABLISHMENT OF BOARD.—To assist in implementing the coordinated program, there is established an Interagency Board for Nutrition Monitoring and Related Research, of which an Assistant Secretary in the Department of Agriculture (designated by the Secretary of Agriculture) and an Assistant Secretary in the Department of Health and Human Services (designated by the Secretary of Health and Human Services) shall be joint chairpersons. The remaining membership of the Board shall consist of additional representatives of Federal agencies, as determined appropriate by the joint chairpersons of the Board. The Board shall meet no less often than once every three months for the two-year period following the date of the enactment of this Act, and when appropriate thereafter.

(d) ADMINISTRATOR.—To establish a central focus and coordinator for the coordinated program, the Secretaries may appoint an Administrator of Nutrition Monitoring and Related Research. The Administrator shall—

(1) be an individual who is eminent in the field of nutrition monitoring and related areas and be selected on the basis of the established record of expertise and distinguished service of such individual; and

(2) administer the coordinated program with the advice and counsel of the joint chairpersons of the Board, serve as the focal point for the coordinated program, and serve as the Executive Secretary for the National Nutrition Monitoring Advisory Council.

7 USC 5312

SEC. 102. FUNCTIONS OF THE SECRETARIES.

(a) IN GENERAL.—The Secretaries, with the advice of the Board, shall—

(1) establish the goals of the coordinated program, identify the activities required to meet such goals, and identify the responsible agencies with respect to the coordinated program;

(2) update the Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System, and integrate it into the coordinated program;

(3) ensure the timely implementation of the coordinated program and the comprehensive plan prepared under section 103;

Grant programs—research.

(4) include in the coordinated program and the comprehensive plan a competitive grants program, to be implemented to the extent funds are available, in accordance with the provisions of this Act to encourage and assist the conduct, by Federal entities, and by non-Federal entities on an appropriate matching funds basis, of research (including research described in section 103(a)(3)) that will accelerate the development of uniform and cost-effective standards and indicators for the assessment and monitoring of nutritional and dietary status and for relating food consumption patterns to nutritional and health status;

Grant programs—nutrition

(5) include in the coordinated program and the comprehensive plan a grants program, in accordance with the provisions of this Act, to encourage and assist State and local governments in developing the capacity to conduct monitoring and surveillance of nutritional status, food consumption, and nutrition knowledge and in using such capacity to enhance nutrition services (including activities described in section 103(a)(5) and 103(b)(9));

(6) include in the coordinated program each fiscal year an annual interagency budget for each fiscal year of the program;

(7) foster productive interaction, with respect to nutrition monitoring and related research, among Federal efforts, State and local governments, the private sector, scientific communities, health professionals, and the public;

Government contracts. Reports.

(8)(A) contract with a scientific body, such as the National Academy of Sciences or the Federation of American Societies for Experimental Biology, to interpret available data analyses, and publish every two years, or more frequently if appropriate, except as provided in subparagraph (B), a report on the dietary, nutritional, and health-related status of the people of the United States and the nutritional quality (including the nutritive and nonnutritive content) of food consumed in the United States; or

(B) if the Secretaries determine that sufficient data analyses are not available to warrant interpretation of such data analyses, inform Congress of such fact at the time a report required in subparagraph (A) would have been published, and publish such report at least once every five years; and

(9)(A) foster cost recovery management techniques in the coordinated program; and

(B) impose appropriate charges and fees for publications of the coordinated program, including print and electronic forms of data and analysis, and use the proceeds of such charges and fees for purposes of the coordinated program (except that no such charge or fee imposed on an educational or other nonprofit organization shall exceed the actual costs incurred by the coordinated program in providing the publications involved).

(b) BIENNIAL REPORT.—The Secretaries shall submit to the President for transmittal to Congress by January 15 of each alternate year, beginning with January 15 following the date of the enactment of this Act, a biennial report that shall—

(1) evaluate the progress of the coordinated program;

(2) summarize the results of such coordinated program components as are developed under section 103;

(3) describe and evaluate any policy implications of the analytical findings in the scientific reports required under subsection (a)(8), and future priorities for nutrition monitoring and related research;

(4) include in full the annual reports of the Council provided for in section 202; and

(5) include an executive summary of the report most recently published by the scientific body, as provided for in subsection (a)(8).

7 USC 5313

SEC. 103. DEVELOPMENT OF THE COMPREHENSIVE PLAN FOR THE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH PROGRAM.

Reports. Infants and children. Aged. Disadvantaged persons. Minorities. Women.

(a) COMPREHENSIVE PLAN.—The Secretaries, with the advice of the Board, shall prepare and implement a comprehensive plan for the coordinated program which shall be designed to—

(1) assess, collate data with respect to, analyze, and report, on a continuous basis, the dietary and nutritional status of the people of the United States, and the trends with respect to such status (dealing with such status and trends separately in the case of preschool and school-age children, pregnant and lactat-

ing women, elderly individuals, low-income populations, blacks, Hispanics, and other groups, at the discretion of the Secretaries), the state of the art with respect to nutrition monitoring and related research, future monitoring and related research priorities, and relevant policy implications of findings with respect to such status, trends, and research;

(2) sample representative subsets of identifiable low-income populations (such as Native Americans, Hispanics, or the homeless), and assess, analyze, and report, on a continuous basis, for a representative sample of the low-income population, food and household expenditures, participation in food assistance programs, and periods experienced when nutrition benefits are not sufficient to provide an adequate diet;

(3) sponsor or conduct research necessary to develop uniform indicators, standards, methodologies, technologies, and procedures for conducting and reporting nutrition monitoring and surveillance;

(4) develop and keep updated a national dietary and nutritional status data bank, a nutrient data bank, and other data resources as required;

(5) assist State and local government agencies in developing procedures and networks for nutrition monitoring and surveillance; and

(6) focus the nutrition monitoring activities of Federal agencies.

(b) COMPONENTS OF PLAN.—The comprehensive plan, at a minimum, shall include components to—

(1) maintain and coordinate the National Health and Nutrition Examination Survey (NHANES) and the Nationwide Food Consumption Survey (NFCS);

(2) provide, by 1991, for the continuous collection, processing, and analysis of nutritional and dietary status data through stratified probability samples of the people of the United States designed to permit statistically reliable estimates of high-risk groups and geographic areas, and to permit accelerated data analysis (including annual analysis, as appropriate);

(3) maintain and enhance other Federal nutrition monitoring efforts such as the Centers for Disease Control Nutrition Surveillance Program and the Food and Drug Administration Total Diet Study, and, to the extent possible, coordinate such efforts with the surveys described in paragraphs (1) and (2);

(4) incorporate, in survey design, military and (where appropriate) institutionalized populations;

(5) complete the analysis and interpretation of the data sets from the surveys described in paragraph (1) collected prior to 1984 within the first year of the comprehensive plan;

(6) improve the methodologies and technologies, including those suitable for use by States and localities, available for the assessment of nutritional and dietary status and trends;

(7) develop uniform standards and indicators for the assessment and monitoring of nutritional and dietary status, for relating food consumption patterns to nutritional and health status, and for use in the evaluation of Federal food and nutrition intervention programs;

(8) establish national baseline data and procedures for nutrition monitoring;

(9) provide scientific and technical assistance, training, and consultation to State and local governments for the purpose of—

(A) obtaining dietary and nutrition status data;

(B) developing related data bases; and

(C) promoting the development of regional, State, and local data collection services to become an integral component of a national nutritional status network;

(10) establish mechanisms to identify the needs of users of nutrition monitoring data and to encourage the private sector and the academic community to participate in the development and implementation of the comprehensive plan and contribute relevant data from non-Federal sources to promote the development of a national nutritional status network;

(11) compile an inventory of Federal, State, and nongovernment activities related to nutrition monitoring and related research;

(12) focus on national nutrition monitoring needs while building on the responsibilities and expertise of the individual membership of the Board;

(13) administer the coordinated program, define program objectives, priorities, oversight, responsibilities, and resources, and define the organization and management of the Board and the Council; and

(14) provide a mechanism for periodically evaluating and refining the coordinated program and the comprehensive plan that facilitates cooperation and interaction by State and local governments, the private sector, scientific communities, and health care professionals, and that facilitates coordination with non-Federal activities.

(c) ADDITIONAL REQUIREMENTS OF PLAN.—The comprehensive plan shall—

(1) allocate all of the projected functions and activities under the coordinated program among the various Federal agencies and offices that will be involved;

(2) contain an affirmative statement and description of the functions to be performed and activities to be undertaken by each of such agencies and offices in carrying out the coordinated program; and

(3) constitute the basis on which each agency participating in the coordinated program requests authorizations and appropriations for nutrition monitoring and related research during the ten-year period of the program.

(d) PUBLICATION OF PLAN.—(1) PROPOSED PLAN.—Within 12 months after the date of enactment of this Act, the Secretaries shall publish in the Federal Register a proposed comprehensive plan for public review for a comment period of no less than sixty days. Federal Register, publication

(2) FINAL PLAN.—Within sixty days after the comment period under paragraph (1) expires, and after considering any comments received, the Secretaries shall submit to the President, for submission to the Congress and for publication in the Federal Register, the final comprehensive plan.

(e) PROHIBITION ON CONSTRUING.—Nothing in this section may be construed as modifying, or as authorizing the Secretaries or the comprehensive plan to modify, any provision of an appropriation Act (or any other provision of law relating to the use of appropriated funds) that specifies—

(1) the department or agency to which funds are appropriated; or

(2) the obligations of such department or agency with respect to the use of such funds.

7 USC 5314

SEC. 104. IMPLEMENTATION OF THE COMPREHENSIVE PLAN.

(a) IN GENERAL.—The comprehensive plan shall be carried out during the period ending with the close of the ninth fiscal year following the fiscal year in which the comprehensive plan is submitted in its final form under section 103(d)(2) and shall be—

(1) carried out in accordance with, and meet the program objectives specified in, section 102(a) and section 103(b);

(2) carried out, by the Federal agencies involved, in accordance with the allocation of functions and activities under section 103(c); and

(3) funded by appropriations made to such agencies for each fiscal year of the program.

(b) EXISTING LAW NOT AFFECTED.—Nothing in this title may be construed to grant any new regulatory authority or to limit, expand, or otherwise modify any regulatory authority under existing law, or to establish new criteria, standards, or requirements for regulation under existing law.

7 USC 5315

SEC. 105. SCIENTIFIC RESEARCH AND DEVELOPMENT IN SUPPORT OF THE COORDINATED PROGRAM AND COMPREHENSIVE PLAN.

The Secretaries shall coordinate the conduct of, and may contract with the National Science Foundation, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Institute of Standards and Technology, and other suitable Federal agencies for, such scientific research and development as may be necessary or appropriate in support of the coordinated program and the comprehensive plan and in furtherance of the purposes and objectives of this Act.

USC 5316

SEC. 106. ANNUAL BUDGET SUBMISSION.

(a) ANNUAL REPORT.—The President, at the same time as the submission of the annual budget to the Congress, shall submit a report to the Committees on Agriculture and Science, Space, and Technology of the House of Representatives and to the Committees on Agriculture, Nutrition, and Forestry and Governmental Affairs of the Senate on expenditures required for carrying out the coordinated program and implementing the comprehensive plan. The report shall detail, for each of the agencies that are allocated responsibilities under the coordinated program—

(1) the amounts spent on the coordinated program during the fiscal year most recently ended;

(2) the amounts expected to be spent during the current fiscal year; and

(3) the amounts requested in the annual budget for the fiscal year for which the budget is being submitted.

(b) EXISTING AUTHORITY NOT AFFECTED.—Nothing in this title is intended to either—

(1) authorize the appropriation or require the expenditure of any funds in excess of the amount of funds that would be authorized or expended for the same purposes in the absence of the coordinated program; or

(2) limit the authority of any of the participating agencies to request and receive funds for such purposes (for use in the coordinated program) under other laws.

TITLE II—NATIONAL NUTRITION MONITORING ADVISORY COUNCIL

SEC. 201. STRUCTURE OF THE COUNCIL. 7 USC 533

President.

(a) IN GENERAL.—(1) ESTABLISHMENT.—The President shall establish, within ninety days after the date of the enactment of this Act, a National Nutrition Monitoring Advisory Council. The Council shall assist in carrying out the purposes of this Act, provide scientific and technical advice on the development and implementation of the coordinated program and comprehensive plan, and serve in an advisory capacity to the Secretaries.

(2) MEMBERSHIP.—The Council shall consist of nine voting members, of whom—

(A) five members shall be appointed by the President based upon recommendations from the Secretaries; and

(B) four members shall be appointed by Congress, of whom—

(i) one shall be appointed by the Speaker of the House of Representatives;

(ii) one shall be appointed by the minority leader of the House of Representatives;

(iii) one shall be appointed by the President pro tempore of the Senate; and

(iv) one shall be appointed by the minority leader of the Senate.

(3) EX OFFICIO MEMBERS.—The Council also shall include the joint chairpersons of the Board as ex officio nonvoting members.

(b) SELECTION CRITERIA.—Each person appointed to the Council shall be selected solely on the basis of an established record of distinguished service and shall be eminent in one of the following fields:

(1) public health, including clinical dietetics, public health nutrition, epidemiology, clinical medicine, health education, or nutrition education;

(2) nutrition monitoring research, including nutrition monitoring and surveillance, food consumption patterns, nutritional anthropology, community nutrition research, nutritional biochemistry, food composition analysis, survey statistics, dietary-intake methodology, or nutrition status methodology; or

(3) food production and distribution, including agriculture, biotechnology, food technology, food engineering, economics, consumer psychology or sociology, food-system management, or food assistance.

(c) PARTICULAR REPRESENTATION REQUIREMENTS.—The Council membership, at all times, shall include at least two representatives from each of the three areas of specialization listed in subsection (b), and shall have representatives from various geographic areas, the private sector, academia, scientific and professional societies, agriculture, minority organizations, and public interest organizations and shall include a State or local government employee with a specialized interest in nutrition monitoring.

(d) CHAIRPERSON.—The Chairperson of the Council shall be elected from and by the Council membership. The term of office of the Chairperson shall not exceed 5 years. If a vacancy occurs in the Chairpersonship, the Council shall elect a member to fill such vacancy.

(e) TERM OF OFFICE.—The term of office of each of the voting members of the Council shall be 5 years, except that of the 5 members first appointed by the President, 2 shall be appointed for a term of 2 years, 2 for terms of 3 years, and one for a term of 4 years, as designated by the President at the time of appointment. Any member appointed to fill a vacancy occurring prior to the expiration of the term for which the predecessor of such member was appointed shall be appointed for the remainder of such term. No voting member shall be eligible to serve continuously for more than 2 consecutive terms.

(f) INITIAL APPOINTMENT.—The initial members of the Council shall be appointed or designated not later than ninety days after the date of the enactment of this Act.

(g) MEETINGS.—The Council shall meet on a regular basis at the call of the Chairperson, or on the written request of one-third of the members. A majority of the appointed members of the Council shall constitute a quorum.

(h) LIMITATION ON FEDERAL EMPLOYMENT.—Appointed members of the Council may not be employed by the Federal Government and shall be allowed travel expenses as authorized by section 5703 of title 5, United States Code.

(i) EXECUTIVE SECRETARY.—The Administrator of Nutrition Monitoring and Related Research (if appointed under section 101(d)) shall serve as the Executive Secretary of the Council.

(j) TERMINATION.—The Council shall terminate 10 years after the final comprehensive plan is prepared under section 103.

7 USC 5332

SEC. 202. FUNCTIONS OF THE COUNCIL.

The Council shall—

(1) provide scientific and technical advice on the development and implementation of all components of the coordinated program and the comprehensive plan;

(2) evaluate the scientific and technical quality of the comprehensive plan and the effectiveness of the coordinated program;

(3) recommend to the Secretaries, on an annual basis, means of enhancing the comprehensive plan and the coordinated program; and

Reports

(4) submit to the Secretaries annual reports that—

(A) shall contain the components specified in paragraphs (2) and (3); and

(B) shall be included in full in the biennial reports of the Secretaries to the President for transmittal to Congress under section 102(b).

TITLE III—DIETARY GUIDANCE

7 USC 5341

SEC. 301. ESTABLISHMENT OF DIETARY GUIDELINES.

(a) REPORT.—(1) IN GENERAL.—At least every five years the Secretaries shall publish a report entitled "Dietary Guidelines for Americans". Each such report shall contain nutritional and dietary information and guidelines for the general public, and shall be promoted by each Federal agency in carrying out any Federal food, nutrition, or health program.

(2) BASIS OF GUIDELINES.—The information and guidelines contained in each report required under paragraph (1) shall be based on the preponderance of the scientific and medical knowledge which is current at the time the report is prepared.

(b) APPROVAL BY SECRETARIES.—(1) REVIEW.—Any Federal agency that proposes to issue any dietary guidance for the general population or identified population subgroups shall submit the text of such guidance to the Secretaries for a sixty-day review period.

(2) BASIS OF REVIEW.—(A) IN GENERAL.—During the sixty-day review period established in paragraph (1), the Secretaries shall review and approve or disapprove such guidance to assure that the guidance either is consistent with the "Dietary Guidelines for Americans" or that the guidance is based on medical or new scientific knowledge which is determined to be valid by the Secretaries. If after such sixty-day period neither Secretary notifies the proposing agency that such guidance has been disapproved, then such guidance may be issued by the agency. If both Secretaries disapprove of such guidance, it shall be returned to the agency. If either Secretary finds that such guidance is inconsistent with the "Dietary Guidelines for Americans" and so notifies the proposing agency, such agency shall follow the procedures set forth in this subsection before disseminating such proposal to the public in final form. If after such sixty-day period, either Secretary disapproves such guidance as inconsistent with the "Dietary Guidelines for Americans" the proposing agency shall—

Federal Register publicat

(i) publish a notice in the Federal Register of the availability of the full text of the proposal and the preamble of such proposal which shall explain the basis and purpose for the proposed dietary guidance;

(ii) provide in such notice for a public comment period of thirty days; and

(iii) make available for public inspection and copying during normal business hours any comment received by the agency during such comment period.

(B) REVIEW OF COMMENTS.—After review of comments received during the comment period either Secretary may approve for dissemination by the proposing agency a final version of such dietary guidance along with an explanation of the basis and purpose for the final guidance which addresses significant and substantive comments as determined by the proposing agency.

Federal Register publicat

(C) ANNOUNCEMENT.—Any such final dietary guidance to be disseminated under subparagraph (B) shall be announced in a notice published in the Federal Register, before public dissemination along with an address where copies may be obtained.

(D) NOTIFICATION OF DISAPPROVAL.—If after the thirty-day period for comment as provided under subparagraph (A)(ii), both Secretaries disapprove a proposed dietary guidance, the Secretaries shall notify the Federal agency submitting such guidance of such disapproval, and such guidance may not be issued, except as provided in subparagraph (E).

(E) REVIEW OF DISAPPROVAL.—If a proposed dietary guidance is disapproved by both Secretaries under subparagraph (D), the Federal agency proposing such guidance may, within fifteen days after receiving notification of such disapproval under subparagraph (D),

request the Secretaries to review such disapproval. Within fifteen days after receiving a request for such a review, the Secretaries shall conduct such review. If, pursuant to such review, either Secretary approves such proposed dietary guidance, such guidance may be issued by the Federal agency.

(3) LIMITATION ON DEFINITION OF GUIDANCE.—For purposes of this subsection, the term "dietary guidance for the general population" does not include any rule or regulation issued by a Federal agency.

(4) DEFINITION OF IDENTIFIED POPULATION SUBGROUPS.—For purposes of this subsection, the term "identified population subgroups" shall include, but not be limited to, groups based on factors such as age, sex, or race.

(c) EXISTING AUTHORITY NOT AFFECTED.—This section does not place any limitations on—

(1) the conduct or support of any scientific or medical research by any Federal agency;

(2) the presentation of any scientific or medical findings or the exchange or review of scientific or medical information by any Federal agency; or

(3) the authority of the Food and Drug Administration under the provisions of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321 et seq.).

7 USC 5342.

SEC. 302. NUTRITION TRAINING REPORT.

The Secretary of Health and Human Services, in consultation with the Secretaries of Agriculture, Education, and Defense, and the Director of the National Science Foundation, shall submit, within one year after the date of enactment of this Act, a report describing the appropriate Federal role in assuring that students enrolled in United States medical schools and physicians practicing in the United States have access to adequate training in the field of nutrition and its relationship to human health.

Approved October 22, 1990.

LEGISLATIVE HISTORY—H R 1608.

HOUSE REPORTS: No. 101-788 (Comm. on Agriculture).
CONGRESSIONAL RECORD, Vol. 136 (1990):
Oct. 2, considered and passed House.
Oct. 5, considered and passed Senate.

The Ten Year Plan For Nutrition Monitoring in the United States

From: U.S. Department of Health and Human Services and U.S. Department of Agriculture, 1991. Draft Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program. Notice, Washington, D.C.,Federal Register, Vol. 56, No. 209, pp. 55716-55734.

(This Appendix does not contain the calendar for Proposed IBNMRR, National, and State and Local Objective and Activities, nor the references or appendices to the plan. These materials may be found in the Federal Register notice cited above, pp.55735-55766.

federal register

Tuesday
October 29, 1991

Part II

Department of Health and Human Services

Department of Agriculture

Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program; Notice

DEPARTMENT OF HEALTH AND HUMAN SERVICES

DEPARTMENT OF AGRICULTURE

Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program

AGENCIES: Department of Health and Human Services (DHHS) and Department of Agriculture (USDA).

ACTION: Notice of Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program and request for comments.

SUMMARY: Section 103 of the National Nutrition Monitoring and Related Research Act of 1990 (Pub. L. 101–445) requires the publication of a proposed comprehensive plan for nutrition monitoring for public review. The 10-year plan set forth below was developed jointly by DHHS and USDA in consultation with the Interagency Board for Nutrition Monitoring and Related Research. Comments are requested regarding this 10-year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program.

EFFECTIVE DATE: October 22, 1991. Written comments on all aspects of the plan are welcome. We are especially interested in comments about the specific activities in the plan, including their comprehensiveness, scope, and content. Please identify activity V–C–2. Comments should be made in writing by January 22, 1992, to either of the addresses specified below.

ADDRESSES: Written comments should be addressed to Ms. Alanna Moshfegh, Human Nutrition Information Service, U.S. Department of Agriculture, 6505 Belcrest Road, rm. 366, Hyattsville, MD 20782, or Dr. Ronette Briefel, Centers for Disease Control/National Center for Health Statistics, 6525 Belcrest Road, rm. 900, Hyattsville, MD 20782.

FOR FURTHER INFORMATION CONTACT: Ms. Alanna Moshfegh (see address above), telephone (301) 436–8457, or Dr. Ronette Briefel (see address above), telephone (301) 436–3473.

The following is the proposed Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program issued jointly by the USDA and DHHS for public comment.

Dated: October 22, 1991.

Catherine Bertini,

Assistant Secretary for Food and Consumer Services, Department of Agriculture.

James O. Mason,

Assistant Secretary for Health, Department of Health and Human Services.

Acronyms and abbreviations
I. Introduction
II. The National Nutrition Monitoring System (NNMS)
A. Purposes and uses of NNMS data
B. Milestones of the NNMS
C. Structure of Federal coordination of the NNMRRP
D. The National Nutrition Monitoring Advisory Council
III. Format of the proposed activities
IV. Activities of the IBNMRR
V. National objectives and activities
Objective V–A: Provide for a comprehensive NNMS through continuous and coordinated data collection
1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases
5. Food supply determinations
Objective V–B: Improve the comparability and quality of data across the NNMS
1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases
Objective V–C: Broaden the research base for nutrition monitoring
1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases
5. Food supply determinations
VI. State and local objectives and activities
Objective VI–A: Develop and strengthen State and local capacity for continuous and coordinated data collection
Objective VI–B: Improve methodologies to enhance comparability of NNMS data across Federal, State, and local levels
Objective VI–C: Improve the quality of State and local nutrition monitoring data
VII. Calendar for proposed national, State and local objectives and activities
VIII. References
IX. Appendixes
Appendix 1 Joint DHHS-USDA Working Group
Appendix 2 Nutrition monitoring activities from 1896 to 1991
Appendix 3 Current and proposed nutrition monitoring activities from 1992–2002
Appendix 4 Overview of current NNMS surveys and surveillance activities
Appendix 5 Detailed conceptual model of food to health
Appendix 6 Illustration of the relationships among nutrition policymaking, research, and monitoring with respect to a coronary risk factor, biomedical education program
X. Glossary

Acronyms and Abbreviations

The following list of acronyms and abbreviations is provided as a quick index of Federal departments, agencies, survey activities, and non-Federal organizations that are mentioned more than once in this report. Parenthetical acronyms and abbreviations identify the parent department and agencies to which the listed agencies or committees belong.

AMS	Agricultural Marketing Service (USDA).
ARS	Agricultural Research Service (USDA).
ASTHPHLD	Association of State and Territorial Public Health Laboratory Directors.
ASTPHND	Association of State and Territorial Public Health Nutrition Directors.
BHE	Bureau of Home Economics (USDA).
BHNHE	Bureau of Human Nutrition and Home Economics (USDA).
BLS	Bureau of Labor Statistics (DOL).
BRFSS	Behavioral Risk Factor Surveillance System (DHHS/PHS/CDC/NCCDPHP).
CES	Cooperative Extension Service (USDA).
CDC	Centers for Disease Control (DHHS).
CFERD	Consumer and Food Economics Research Division (ARS/USDA).
CSFII	Continuing Survey of Food Intakes By Individuals (UDSA/HNIS).
CSRS	Cooperative State Research Service (USDA).
CSSS	Coordinated State Surveillance System (DHHS/PHS/CDC/NCCDPHP).
DHEW	Department of Health, Education, and Welfare.
DHHS	Department of Health and Human Services.
DOC	Department of Commerce.
DOD	Department of Defense.
DOL	Department of Labor.
EPA	Environmental Protection Agency.
ERS	Economic Research Service (USDA).
ES	Extension Service (USDA).
FASEB	Federation of American Societies for Experimental Biology.
FDA	Food and Drug Administration (DHHS/PHS).
FLAPS	Food Labeling and Package Survey (DHHS/PHS/FDA).
FNS	Food and Nutrition Service (USDA).
FSIS	Food Safety and Inspection Service (USDA).
HERB	Home Economics Research Branch (ARS/USDA).
HHANES	Hispanic Health and Nutrition Examination Survey (DHHS/PHS/CDC/NCHS).
HNIS	Human Nutrition Information Service (USDA).

HRSA	Health Resources and Services Administration (DHHS).
IBNMRR	Interagency Board on Nutrition Monitoring and Related Research.
ICNM	Interagency Committee on Nutrition Monitoring.
IHS	Indian Health Service (DHHS/PHS).
INFOODS	International Food Composition Data System.
ICHNR	Interagency Committee on Human Nutrition Research.
JNMEC	Joint Nutrition Monitoring Evaluation Committee (DHHS/USDA).
LSRO	Life Sciences Research Office (FASEB).
NASA	National Aeronautics and Space Administration.
NCCDPHP	National Center for Chronic Disease Prevention and Health Promotion (DHHS/PHS/CDC).
NCEHIC	National Center for Environmental Health and Injury Control (DHHS/PHS/CDC).
NCHS	National Center for Health Statistics (DHHS/PHS/CDC).
NCI	National Cancer Institute (DHHS/PHS/NIH).
NCL	Nutrient Composition Laboratory (USDA/ARS).
NFCS	Nationwide Food Consumption Survey (USDA/HNIS).
NHLBI	National Heart, Lung, and Blood Institute (DHHS/PHS/NIH).
NIA	National Institute on Aging (DHHS/PHS/NIH).
NIH	National Institutes of Health (DHHS/PHS).
NHANES	National Health and Nutrition Examination Survey (DHHS/PHS/CDC/NCHS).
NHIS	National Health Interview Survey DHHS/PHS/CDC/NCHS).
NMFS	National Marine Fisheries Service (NOAA/DOC).
NNDB	National Nutrient Data Bank (USDA/HNIS).
NNMAC	National Nutrition Monitoring Advisory Council.
NNMS	National Nutrition Monitoring System.
NOAA	National Oceanic and Atmospheric Administration (DOC).
OASFCS	Office of the Assistant Secretary for Food and Consumer Services (USDA).
OASH	Office of the Assistant Secretary for Health (DHHS/PHS).
ODPHP	Office of Disease Prevention and Health Promotion (DHHS/OASH/PHS).
PedNSS	Pediatric Nutrition Surveillance System (DHHS/PHS/CDC/NCCDPHP).
PHS	Public Health Service (DHHS).
PNSS	Pregnancy Nutrition Surveillance System (DHHS/PHS/CDC/NCCDPHP).
TDS	Total Diet Study. (DHHS/PHS/FDA).
USARIEM	United States Army Research Institute of Environmental Medicine (DOD).
USDA	United States Department of Agriculture.
YRBS	Youth Risk Behavior Survey (DHHS/PHS/CDC/NCCDPHP).

I. Introduction

The National Nutrition Monitoring and Related Research Act of 1990 (Pub. L. 101–445) defines the term nutrition monitoring and related research as "the set of activities necessary to provide timely information about the role and status of factors that bear on the contribution that nutrition makes to the health of the people of the United States" (1). The establishment and implementation of a coordinated program is mandated in title I of the Act: "The National Nutrition Monitoring and Related Research Program". The Act requires the preparation of a 10-year comprehensive plan for nutrition monitoring and related research.

The primary goal of the 10-year comprehensive plan is to establish a comprehensive nutrition monitoring and related research program by collecting quality data that are continuous, coordinated, timely, and reliable; using comparable methods for data collection and reporting of results; conducting relevant research; and efficiently and effectively disseminating and exchanging information with data users.

This document provides a brief history and review of past accomplishments of the National Nutrition Monitoring System (NNMS) in the U.S. It also presents the 10-year plan, 1992–2002, describing current nutrition monitoring activities (in appendices) and proposed activities required to improve and expand the nutrition monitoring program (sections IV through VII).

This 10-year comprehensive plan was developed by the Joint Department of Health and Human Services (DHHS) and the United States Department of Agriculture (USDA) Working Group (appendix 1) with broad input from other Federal agencies, the public health community, and other users of nutrition monitoring data, including scientific advisors to Federal agencies, food and nutrition researchers, economists, food industry, and academia. In addition, recommendations for the NNMS made by scientific experts over the past decade, including the Joint Nutrition Monitoring Evaluation Committee (2), the Expert Panel on Nutrition Monitoring (3), the Coordinating Committee on Evaluation of Food Consumption Surveys of the National Research Council (4), and the Research Triangle Institute (RTI) (5) were considered in the development of this plan. The activities in this plan reflect four areas: (a) Requirements of the law; (b) priorities identified by Federal agencies responsible for conducting nutrition monitoring surveys and related activities; (c) recommendations from scientific experts and organizations; (d) recommendations from users of NNMS data.

II. The National Nutrition Monitoring System

The NNMS is a complex assortme interconnected activities which prov information about the contribution t diet and nutritional status make to t health of the American people and about the factors affecting dietary a nutritional status (6). A chronologica listing of past (1896–1991) nutrition monitoring surveys and activities classified by the five NNMS compon is found in appendix 2. The NNMS activities are grouped into five measurement components:

- Nutrition and related health measurements,
- Food and nutrient consumption,
- Knowledge, attitudes, and beha assessments,
- Food composition and nutrient bases, and
- Food supply determinations.

Data and information derived from components are used to assess the dietary, nutritional and related heal status of the population.

Currently, more than 40 surveys a surveillance systems have evolved response to the information needs o Federal agencies and other data use Appendix 3 lists current and propos surveys and systems from 1992–200 organized by the five component ar A brief description of the surveys a surveillance activities that constitu NNMS is found in appendix 4.

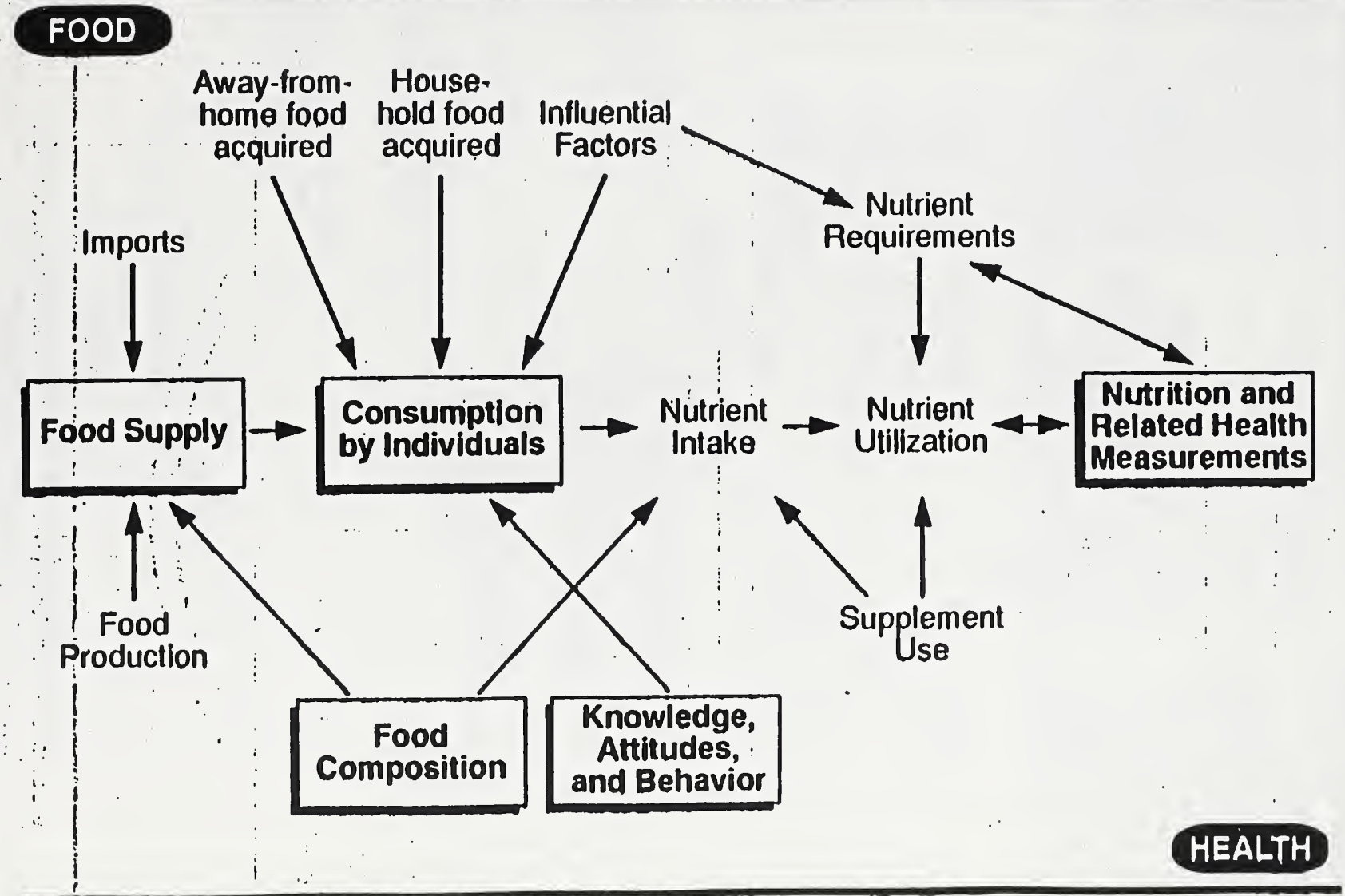
A general conceptual model representing the relationship betwe food and health among the five components is presented in Figure I A detailed model is found in appen

A. Purposes and Uses of NNMS Da

Nutrition monitoring is vital to policymaking and research (figure I Monitoring provides information a data base for public policy decisio related to nutrition education; publ health nutrition programs; food assistance programs; Federally supported food service programs; t regulation of fortification, safety, a labeling of the food supply; and foo production and marketing. The NN also provides a data base to establ research priorities. Table II–1 prov examples of the general uses of NN data. Appendix 6 provides one spe example of how NNMS data relate health education program.

More specifically, data from the NNMS have been used to develop

Figure II-1. Relationship of Food to Health.*



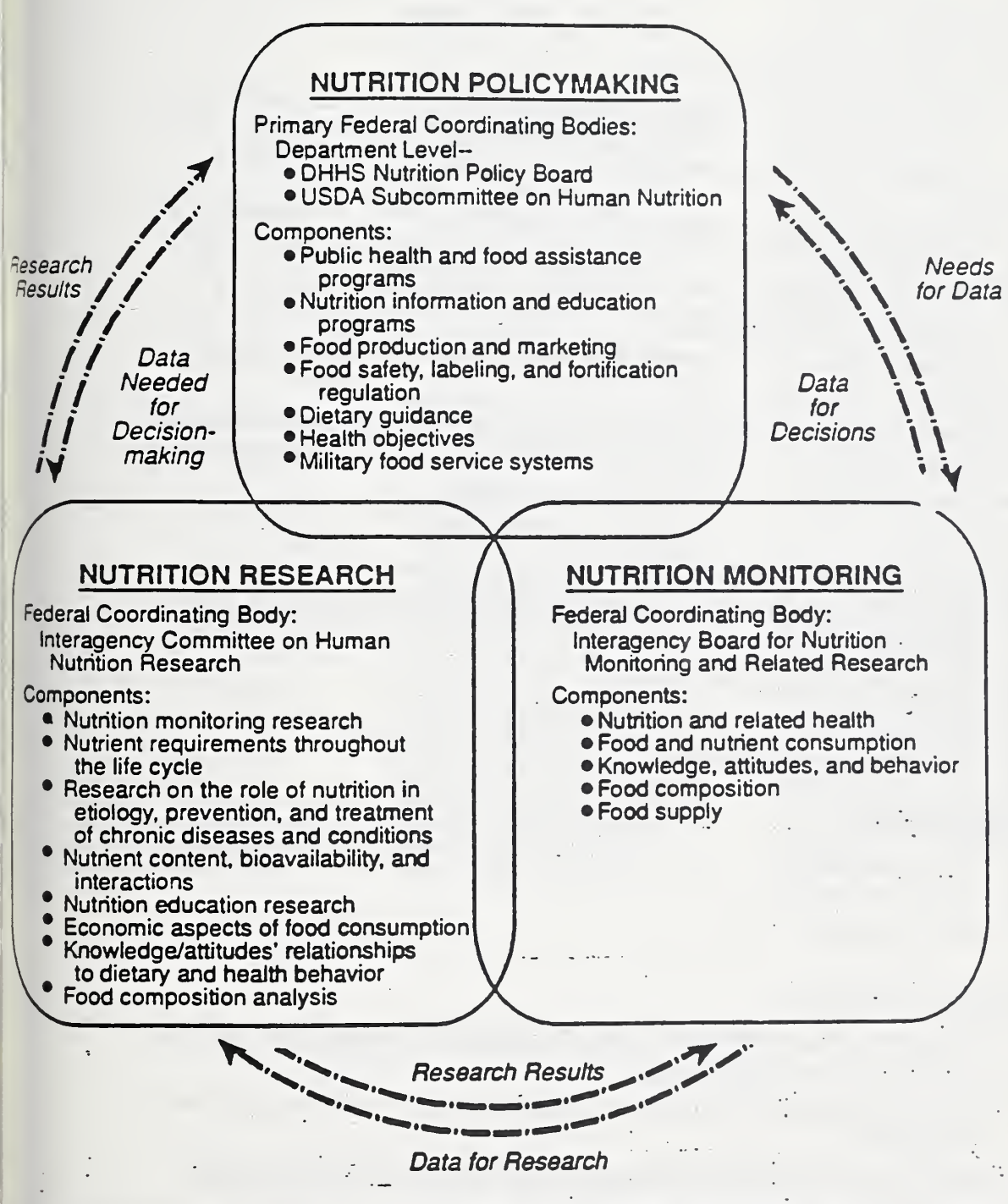
*Boxes indicate 5 components of the NNMS.
Detailed conceptual model is found in Appendix 5

Dietary Guidelines for Americans (7) and the Thrifty Food Plan (8), to evaluate progress towards achievement of the 1990 Health Objectives for the Nation (9) and to develop the nutrition and related health objectives included in Healthy People 2000: National Health Promotion and Disease Prevention Objectives (10). These data will also be used to track trends and progress toward achieving the Health Objectives and meeting the Dietary Guidelines. Another important use of NNMS data is in the development of the Recommended Dietary Allowances (RDAs) and in identifying areas of nutrition research that are needed to increase the knowledge base and revise the standards of human nutrient requirements (11).

Data have been used by regulatory agencies to examine U.S. fortification policies (12), to provide dietary exposure estimates for nutrient and non-nutrient food components (13), and as a basis for components of food labeling (14). Data have also been used to provide information about the relationship between diet, nutrition, and health such as in The Surgeon General's Report on Nutrition and Health (15) and the National Academy of Science's report on Diet and Health: Implications for Reducing Chronic Disease Risk (16), to identify food and nutrition research priorities of significance to public health and food sufficiency, and to evaluate the impact of nutrition initiatives for military feeding systems (17).

BILLING CODE 4160-18-M

Figure II-2. Relationships among Nutrition Policymaking, Research, and Monitoring*



*Adapted from the Operational Plan for the National Nutrition Monitoring System (6).

Table II-1. Uses of Nutrition Monitoring Data

I. Public Policy

A. Monitoring and surveillance:

- Identify high-risk groups and geographical areas with nutrition-related problems to facilitate implementation of public health intervention programs and food assistance programs
- Evaluate changes in agricultural policy which may affect the nutritional quality and healthfulness of the U.S. food supply
- Assess progress toward achieving the nutrition objectives in Healthy People 2000 (10)
- Evaluate the effectiveness of nutritional initiatives for military feeding systems
- Report health and nutrition data from State-based programs to comply with Federal administrative program requirements
- Monitor food production and marketing

B. Nutrition-related programs:

- Nutrition education and dietary guidance (Dietary Guidelines for Americans) (7)
- Food assistance programs
- Nutrition intervention programs
- Public health programs

C. Regulatory:

- Food labeling
- Food fortification
- Food safety

II. Scientific Research

- Nutrient requirements (Recommended Dietary Allowances) (11)
- Diet-health relationships
- Knowledge and attitudes' relationships to dietary and health behavior
- Nutrition monitoring research--national and international
- Food composition analysis
- Economic aspects of food consumption
- Nutrition education research

BILLING CODE 4160-16-C

3. Milestones of the NNMS

Table II–2 provides a listing of the milestones of the NNMS beginning with the Food and Agriculture Act of 1977. The NNMS was formally established as a result of the passage of this Act, which required the Secretaries of USDA and the U.S. Department of Health, Education and Welfare (currently DHHS) to submit a proposal for a comprehensive nutritional status monitoring system to Congress (18–19). The proposal included an analysis of deficiencies in the existing surveys and surveillance systems and provided recommendations for improving and expanding the scope of Federal nutrition monitoring activities. Upon recommendation of the General Accounting Office, DHHS and USDA prepared the Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System and submitted it to Congress in September, 1981. This plan described the major goals and objectives of the NNMS and how the Departments intended to achieve them (20). The two specific objectives of the Implementation Plan were:

- Achievement of the best possible coordination between the two largest components of the NNMS—the National Health and Nutrition Examination Survey (NHANES) and the Nationwide Food Consumption Survey (NFCS);
- Development of a reporting system to translate the findings from these two national surveys and other monitoring activities into periodic reports to Congress on the nutritional status of the American population.

According to this plan, a Joint Nutrition Monitoring Evaluation Committee (JNMEC) was to develop reports to Congress at 3-year intervals. In 1983, the JNMEC was established as a Federal advisory committee and prepared the report entitled, Nutrition Monitoring in the United States: A Progress Report from the Joint Nutrition Monitoring Evaluation Committee. This report provided an overview of the dietary and nutritional status of the population and was transmitted to Congress in July, 1986. (2) During this time period (1984), there was also a report prepared by the National Academy of Sciences which was funded by USDA and DHHS. This publication described uses of food consumption data and recommendations on survey design that would facilitate wider application of survey data (4).

In 1987, DHHS and USDA published an Operational Plan for the National Nutrition Monitoring System (6), a revision of the 1981 Joint Implementation Plan (20). The goals of the Operational Plan for the National Nutrition Monitoring System were:

- Achieve a comprehensive system through coordination among NNMS components;
- Improve information dissemination and exchange; and
- Improve the research base for nutrition monitoring.

In 1988, the Interagency Committee on Nutrition Monitoring (ICNM) was established to provide a formal mechanism for facilitating achievement of the system's expanded goals (21). The ICNM was co-chaired by the Assistant Secretary for Health, DHHS, and the Assistant Secretary for Food and Consumer Services, USDA, with representation from Federal agencies with responsibility for nutrition monitoring. The ICNM was responsible for enhancing the effectiveness and productivity of Federal nutrition monitoring efforts by improving the planning, coordination and communication among agencies. As a first step, the ICNM compiled The Directory of Federal Nutrition Monitoring Activities (22). This directory was published in September, 1989, as a companion document to the triennial reports to Congress on nutrition monitoring. This publication has been well received and is extensively used by the public health community, academia, the private sector, and government.

The second progress report to Congress entitled, Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring, published in September 1989, was prepared by an Expert Panel of the Life Sciences Research Office (LSRO), Federation of American Societies of Experimental Biology (FASEB), for USDA and DHHS (3). This report updated the dietary and nutritional status information presented in the 1986 report and provided an in-depth analysis of the contributions of the NNMS to the evaluation of the relationship of dietary and nutritional factors to cardiovascular disease and to the assessment of iron nutriture.

The National Nutrition Monitoring and Related Research Act (Pub. L. 101–445) was signed into law on October 22, 1990 (1). It is intended "to strengthen national nutrition monitoring by requiring the Secretary of Agriculture and the Secretary of Health and Human Services to prepare and implement a ten-year plan to assess the dietary and nutritional status of the United States population, to support research on, and development of, nutrition monitoring, * * *" (1). The Act establishes several mechanisms to ensure the collaboration and coordination of Federal agencies as well as State and local governments involved in nutrition monitoring activities.

BILLING CODE 4160-10-M

Table II-2. Milestones of the National Nutrition Monitoring System

YEAR	MILESTONE
1977	➤ Food and Agriculture Act (Pub. L. 95-113) passed
1978	➤ Proposal for a comprehensive nutritional status monitoring system submitted to Congress
1981	➤ Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System published
1983	➤ Joint Nutrition Monitoring Evaluation Committee formed
1984	➤ National Survey Data on Food Consumption: Uses and Recommendations published
1986	➤ First Report to Congress: Nutrition Monitoring in the United States: A Progress Report from the Joint Nutrition Monitoring Evaluation Committee published
1987	➤ Operational Plan for the National Nutrition Monitoring System published
1988	➤ Interagency Committee on Nutrition Monitoring (ICNM) formed
1989	➤ The Directory of Federal Nutrition Monitoring Activities published
	➤ Second Report to Congress: Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring published
1990	➤ National Nutrition Monitoring and Related Research Act (Pub. L. 101-445) passed
1991	➤ Interagency Board for Nutrition Monitoring and Related Research established through incorporation and expansion of the ICNM

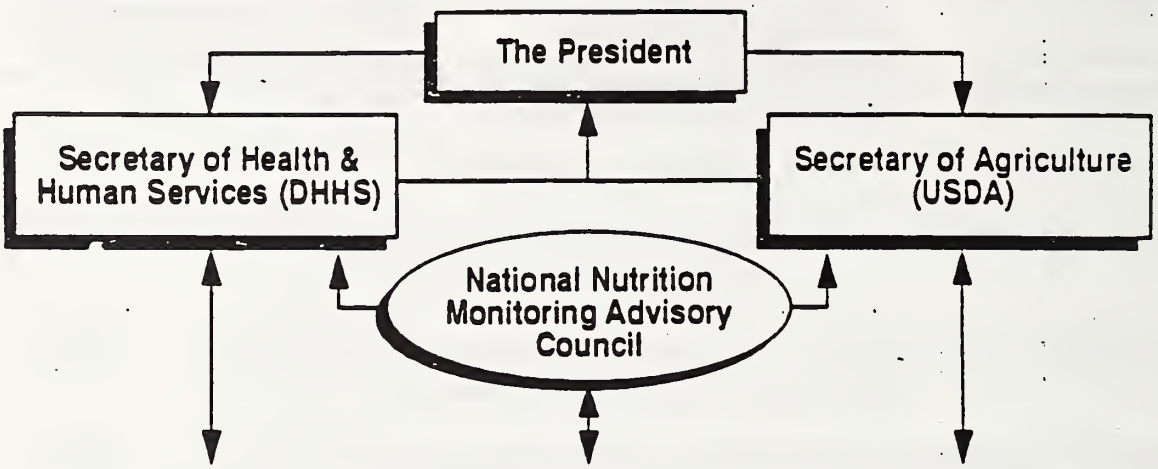
BILLING CODE 4100-10-C

C. Structure of Federal Coordination of the NNMRRP

As specified in the Act, the Secretaries of the DHHS and the USDA have joint responsibility for implementation of the coordinated program and the transmission of required reports to Congress via the President. The Assistant Secretary for Health, DHHS, and the Assistant Secretary for Food and Consumer Services, USDA, have been delegated the responsibility of implementing the program and also serve as joint chairpersons for the Interagency Board for Nutrition Monitoring and Related Research (IBNMRR). The IBNMRR was established in 1991 through the expansion of the function and membership of the ICNM to include other agencies that contribute or use NNMS data. Figure II–3 provides an overview of the Federal structure of coordination of the NNMS.

BILLING CODE 4160-18-M

Figure II-3. Structure of Federal Coordination of the National Nutrition Monitoring and Related Research Program



Interagency Board for Nutrition Monitoring and Related Research

CO-CHAIRS:

Assistant Secretary for Health *

Assistant Secretary for Food and Consumer Services *

MEMBERS:

Agency for International Development
Agricultural Research Service USDA
Alcohol Drug Abuse and Mental Health Administration DHHS
Bureau of the Census DOC
Bureau of Labor Statistics, DOL
Cooperative State Research Service USDA
Department of Defense
** Department of Education
Department of Veterans Affairs
Economic Research Service, USDA
Environmental Protection Agency
Extension Service, USDA
Food and Drug Administration, DHHS
Food and Nutrition Service, USDA
Food Safety and Inspection Service, USDA
Health Resources and Services Administration DHHS
Human Nutrition Information Service USDA
Indian Health Service, DHHS
** National Aeronautics and Space Administration
National Center for Chronic Disease Prevention & Health Promotion, CDC, DHHS
National Center for Health Statistics, CDC, DHHS
National Institutes of Health, DHHS
National Marine Fisheries Service, NOAA, DOC

* *Ex-officio, National Nutrition Monitoring Advisory Council*
** *Invited*

BILLING CODE 4160-16-C

D. The National Nutrition Monitoring Advisory Council

The Act also stipulated the establishment of the National Nutrition Monitoring Advisory Council (NNMAC). The IBNMRR receives scientific and technical guidance from the NNMAC. The Council is composed of the co-chairpersons of the IBNMRR and 9 voting members with expertise in the areas of public health, nutrition monitoring research, and food production and distribution. Five members are appointed by the President based on recommendations by the Secretaries of DHHS and USDA and 4 are appointed by Congress. Appointments are to be renewed periodically as required by the Act. Technical and administrative support is provided jointly by co-executive secretaries from DHHS and USDA.

The Council will evaluate the scientific and technical quality of the comprehensive plan and the effectiveness of the coordinated program, and recommend areas for improvement of the program in annual reports to the Secretaries of DHHS and USDA.

III. Format of the Proposed Activities

The requirements of the plan encompass a broad range of activities needed to achieve the primary goal and objectives of a coordinated national nutrition monitoring program. Current activities planned between 1992 and 2002 are listed in appendix 3. Activities that complement and expand current NNMS activities are addressed in sections IV, V, and VI. Section IV describes the responsibilities and proposed activities of the IBNMRR. Section V consists of three cross-cutting objectives and describes the proposed activities within the five components of the NNMS. Some activities are cross-cutting and consequently will appear in more than one component to assure comprehensiveness and coordination. Section VI contains three objectives and discusses mechanisms to enhance State and local nutrition monitoring efforts and to facilitate coordination of these efforts with Federal activities. Section VII contains the calendars for the activities listed in sections IV, V, and VI.

For each proposed activity in sections V and VI, the Federal organizations responsible for the activity are alphabetically listed as "lead" or "collaborating". Determination of "lead" responsibility was made if the activity is part of the basic mission and/or the responsibility of an organization. "Lead organizations" are responsible for initiating collaboration and for defining appropriate mechanisms for continuation of collaboration. This collaboration refers to substantial participation in planning, conducting, and evaluating the activity. The listed activities are necessary to achieve a coordinated nutrition monitoring program and a comprehensive system. They imply a level of activity beyond the current levels.

In addition the overall plan emphasizes improving the information about selected population subgroups and effective exchange with data users (sections V and VI). Expansion of information on the dietary and nutritional status of specific subgroups in the population is an important part of the goal of creating a comprehensive nutrition monitoring system. Many of the surveys in the NNMS collect data on various subgroups of the population such as low-income groups. However, data are limited or inadequate for some groups, including institutionalized persons, American Indians living on reservations, migrant workers, the homeless, elderly persons, pregnant and lactating women, infants, and preschool and school-aged children. Because issues related to these groups cut across NNMS components, population subgroup issues are included in each relevant section.

Although the monitoring system is limited for coverage of some population subgroups, the current surveys and surveillance systems of the NNMRR program are an underutilized national resource. Many academics, health professionals, and local government officials are not aware of the type and magnitude of health and nutrition surveillance data available to them through the NNMRR program. More aggressive methods are needed to promote and disseminate survey data. In addition to preparing, promoting, and distributing survey reports and data tapes, efforts should be directed to instructing users on how to access and process data appropriately via the provision of documentation materials, training manuals, clearinghouses and data user conferences. Input from NNMS data users is also important in order to keep the system flexible for meeting a variety of needs.

IV. Activities of the Interagency Board for Nutrition Monitoring and Related Research (IBNMRR)

The IBNMRR serves as the central coordination point for the National Nutrition Monitoring and Related Research Program (NNMRRP) for the Federal government. Members of the Board are responsible for representing their agencies in all areas of nutrition monitoring. Board products and activities are completed by appointed working groups and designated staff support from member agencies.

The activities below identify the major mechanisms the Board will employ for coordinating the NNMRRP. The required activities of the IBNMRR as defined by Public Law 101-445 are listed first and followed by proposed Board activities. Section VII contains the calendar of required activities (table VII-1) and the calendar of proposed activities (table VII-2) for the IBNMRR.

Pub. L. 101-445 Required Activities of the IBNMRR

- Meet on a quarterly basis for the 2-year period following enactment of the Act, and as appropriate thereafter.
- Coordinate the preparation of the annual budget report on nutrition monitoring to the President for transmittal to Congress.
- Coordinate the preparation of the biennial reports on progress of the coordinated program and policy implications of scientific findings to the President for transmittal to Congress. This report includes the annual report of the NNMAC.
- Coordinate the preparation of the periodic scientific reports that describe the nutritional and related health status of the population to Congress.

Proposed Activities of the IBNMRR

- Review biennially the IBNMRR membership and representation to be responsive to the Act and the 10-year plan.
- Establish working groups to address topics of special interest and/or high priority. Currently, there are 3 IBNMRR working groups (Survey Comparability, Food Composition Data, and Federal-State Relations and Information Dissemination and Exchange) which hold regular meetings that provide the framework for increased communication and collaboration among the member agencies.
- Coordinate the update and publication of Nutrition Monitoring in the United States: The Directory of Federal Nutrition Monitoring Activities every 3 years, expanding to include sources of non-Federal data.
- Coordinate and publish a chartbook that updates and provides data and information from the NNMS intermediate to publication of the scientific reports.
- Establish a central clearinghouse for nutrition monitoring and related research funded by all Federal agencies participating in the IBNMRR. The

clearinghouse would house copies of survey and surveillance questionnaires, data collection instruments, published information and related research articles. In addition, this clearinghouse has the potential to contain information on State and nongovernmental nutrition monitoring data and activities.

• Develop a set of procedures to solicit input regarding the NNMS and the comprehensive plan from State and local governments, the private sector, public interest groups, health care professionals and scientific communities to revise and update the comprehensive plan.

• Evaluate the progress in accomplishing the activities of the 10-year comprehensive plan and report the findings and recommendations to coincide with the midpoint and endpoint of the plan.

• Respond to recommendations of the NNMAC regarding the enhancement of the comprehensive plan and coordinated program.

• Identify a mechanism for independent review and evaluation of the purposes, uses, and capabilities of surveys in the NNMS to meet intended objectives.

V. National Objectives and Activities

Numerous activities are proposed in this 10-year plan in order to achieve the overall goal of a comprehensive National Nutrition Monitoring and Related Research Program. Three overall national objectives have been identified that are critical to the success of the overall goal:

• Provide for a comprehensive NNMS through continuous and coordinated data collection;

• Improve the comparability and quality of data across the NNMS; and

• Broaden the research base for nutrition monitoring.

These objectives are consistent with and expand upon the goals delineated in the 1981 Joint Implementation Plan (20) and the 1987 Operational Plan (6), and are applicable to each of the five component areas of the NNMS. In this section, the proposed activities are described by component area within each of these overall objectives.

Objective V-A. Provide for a Comprehensive NNMS Through Continuous and Coordinated Data Collection

The establishment of a focused, comprehensive national program for nutrition monitoring and related research involves more than just coordinating current activities in the 5 NNMS components. It includes improvement of methodologies for the collection and interpretation of data, timely processing and release of data, expanding coverage of population subgroups, and addressing current nutrition issues. Continuous collection of data in cross-sectional and longitudinal surveys and surveillance systems within the NNMS is needed to evaluate and monitor the contribution that diet and nutritional status make to the health of the population. In addition, the expansion and coordination of assessments of knowledge, attitudes and behavior, food composition, and the food supply is critical for an effective NNMS.

Specifically, there needs to be increased coordination between NHANES and NFCS/CSFII. Several activities detailed in this 10-year plan address this need. Areas that will be addressed include, but are not limited to, the following:

• Timing of the next NHANES and NFCS/CSFII for the general population and for selected subgroups of the population to assure adequate coverage of monitoring the dietary status of the population (activities V-A-1.3, V-A-2.1, and V-A-2.3).

• Sampling plans for the next surveys to identify the general population and population subgroups (activity V-A-2.1) and defining key population descriptors to be measured across surveys in a comparable manner (activities V-A-2.1, V-B-2.1, and V-B-2.2).

• Methods used for dietary intake assessment (activities V-B-2.2, V-B-2.3, and V-B-4.2).

• Uniform reporting guidelines in the publication of survey findings, survey operations, and response rates (activities V-A-2.1 and V-B-2.4).

• Exploration of the development of a joint sampling design between NHANES and NFCS/CSFII (activities V-A-2.1, V-C-1.1, and V-C-2.3).

• Establishment of a mechanism to combine data from NHANES and NFCS/CSFII into a single estimation model (activity V-A-2.1).

1. Nutrition and Related Health Measurements

Nutrition and related health data have a wide variety of policy, research, health and nutrition education, medical care practices, and reference standards applications. These data have been used to establish baseline data for the 1990 and 2000 health and nutrition objectives for the nation (9–10) and to estimate the prevalence of nutrition and related health conditions in the population.

The NHANES, conducted by DHHS/CDC/NCHS, measures nutritional status, including dietary intake, and health, and thus is the cornerstone of this NNMS component. A number of other surveys and surveillance system primarily conducted by DHHS/CDC, also contribute nutrition-related healt information, particularly for pregnant women, infants, and children. The National Health Interview Survey (NHIS) collects information about self reported health conditions annually ar about special nutrition and health topi periodically. The NHIS has recently been redesigned to produce improved estimates for minority groups in the population.

Nutrition and related health information from these and other surveys and surveillance systems provide data to define midcourse progress toward the Year 2000 nutritio and related health objectives. The continuous collection of these data are required for generating reference distributions and for monitoring trends over time.

Proposed Activities

V-A-1.1

Coordinate the planning for coverag tracking, and reporting of findings fron surveys and surveillance systems that collect nutrition and related health dat in the NNMS to monitor the Year 2000 nutrition and nutrition-related health objectives; coordinate the developmen of standardized nutrition and related health indicators with those establishe for the Year 2000 objectives, as appropriate.

Lead organizotion: CDC/NCHS.

Colloborating orgonizations: CDC/NCCDPHP, FDA, HNIS, HRSA, IHS, NIH, ODPHP.

V-A-1.2

Determine and prioritize which subgroups of the U.S. population are a increased nutritional risk and determir if they need improved coverage throug the NNMS; and define the periodicity and scope of data collection efforts required for adequate coverage.

Lead organizations: CDC/NCHS, HNIS.

Colloborating organizotions: CDC/NCCDPHP, FDA, FNS, HRSA, IHS, NI

V-A-1.3

For those groups needing improved coverage, develop and implement a pl for increased coverage of subgroups of the population at nutritional risk into existing national nutrition monitoring surveys, or alternatively, for conductin special studies of selected subgroups.

Lead organizotions: CDC/NCHS, HNIS.

Collaborating organizations: CDC/NCCDPHP, FDA, FNS, HRSA, IHS, NI

-A-1.4

Establish a mechanism to incorporate current and planned assessments of nutrition and related health status collected from a wider variety of survey and surveillance activities into the NNMS' scientific report, every 5 years and intermediate reports such as a chartbook.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: IBNMRR.

-A-1.5

Produce a revised directory every 3 years to describe current national nutrition monitoring surveys and activities, expanding to include new IBNMRR members' and States' activities.

Lead organization: CDC/NCHS.

Collaborating organizations: IBNMRR Federal-State Relations and Information Dissemination and Exchange Working Group, IBNMRR.

2. Food and Nutrient Consumption

Data from assessment of the food consumption and dietary status of the population provides information needed for making public policy and research decisions related to food fortification, food safety, food labeling, food production and marketing, military feeding systems, food assistance, public health, and nutrition education. The USDA's NFCS and its component—Continuing Surveys of Food Intakes by Individuals (CSFII), and DHHS' NHANES, the two cornerstone NNMS surveys, provide national estimates of food and nutrient intakes in the general U.S. population and subgroups. The NFCS and CSFII emphasize the food and nutrient intake of the general population and subgroups of the population as related to various socioeconomic factors. The household portion of the NFCS provides the only source of collective information on household food use, nutrient availability, and food expenditures. In NHANES, dietary intake is related to health status in the same individuals.

In addition to the cornerstone surveys, there are other surveys within the NNMS that provide valuable food and nutrient intake data. FDA's Vitamin/Mineral Supplement Intake Survey, incorporated into the 1986 National Health Interview Survey, provided estimates of the prevalence of supplement use and characteristics of users. FDA's Total Diet Study provides estimates of the intakes of nutritional elements and metals based on laboratory analyses of foods. DOD's periodic assessments of nutrient and food consumption of military populations are used to monitor and improve the effectiveness of nutritional initiatives for military food service and health promotion programs.

Proposed Activities

V-A-2.1

Coordinate the planning, conducting, and reporting of findings from NFCS/CSFII and NHANES to set the precedent for other surveys of dietary intake and food consumption for the general population and for selected subgroups of the population defined at increased nutritional risk. Joint planning includes timing, sample design, use of standardized key population descriptors and comparable methods, as appropriate.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: Federal users of data for each survey as defined by CDC/NCHS and HNIS.

V-A-2.2

Determine and prioritize which subgroups of the U.S. population are at increased risk for under- or over-consumption of nutrients and food components and determine if they need improved coverage through the NNMS; and define the periodicity and scope of data collection efforts required for adequate coverage.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organization: CDC/NCCDPHP.

V-A-2.3

For those groups needing improved coverage, develop and implement a plan for increased coverage of subgroups of the population at increased risk for under- and over-consumption of nutrients and food components into existing national nutrition monitoring surveys, or alternatively, for conducting special studies of selected subgroups.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: CDC/NCCDPHP, DOD, EPA, FDA, FNS, IHS, NIH.

V-A-2.4

Establish a mechanism to incorporate current and planned assessments of food and nutrient consumption data collected from a wider variety of surveys and surveillance activities (such as those from the military populations) into the NNMS' scientific report, every 5 years and intermediate reports such as a chartbook.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: IBNMRR.

3. Knowledge, Attitudes, and Behavior Assessments

National surveys that measure knowledge, attitudes, and behavior about diet and nutrition and how these relate to health were added to the NNMS only in the past decade. Consequently, less is known about the knowledge, attitudes, and behavior of the general population than is known about their food consumption and nutritional status. Collection of national data on a continuous basis on awareness of diet and health relationships, knowledge and attitudes toward dietary guidance, and food safety, along with dietary behavior, food choices, and health status is needed.

In general, the Health and Diet Surveys conducted by FDA focus on people's awareness of relationships between diet and risk for chronic disease and on health-related knowledge and attitudes. The Diet and Health Knowledge Survey initiated by USDA in 1989 focuses on the relationship of people's attitudes and knowledge about dietary guidance and food safety to their food choices and nutrient intakes. The Behavioral Risk Factor Surveillance System initiated by DHHS/CDC in 1981 focuses on personal behavior and its relationship to nutritional and health status. Other surveys in this area are conducted by State and local agencies and by private industry.

Coordinated collection of dietary and health knowledge and attitudes would help avoid duplication of efforts, to identify and prioritize monitoring needs, and to strengthen linkages between national surveys and programs that use these data for program planning and evaluation purposes. The results of these surveys are used to plan national strategies for encouraging and assisting people to adopt healthy eating patterns.

Proposed Activities

V-A-3.1

Establish and institute a mechanism for improved coordination among Federal agencies that collect and use survey information about knowledge, attitudes, and behavior to assess gaps and duplications in existing surveys.

Lead organizations: FDA, HNIS, NIH.

Collaborating organizations: CDC/NCCDPHP, CDC/NCHS, DOD, FSIS, HRSA.

V-A-3.2

Prepare reports on knowledge, attitudes, and behavior using available NNMS data for the Dietary Guidelines

Advisory Committee to use for the 1995 and 2000 revision of the Dietary Guidelines for Americans.

Lead organizations: FDA, HNIS, NIH.

Collaborating organizations: CDC/NCCDPHP, CDC/NCHS, ODPHP.

V–A–3.3

Expand surveys of knowledge, attitudes, and behavior to provide better coverage of subgroups of the population at increased nutritional risk and relevant topics.

Lead organizations: CDC/NCCDPHP, FDA, HNIS, NIH.

Collaborating organization: CDC/NCHS.

4. Food Composition and Nutrient Data Bases

The USDA operates the National Nutrient Data Bank (NNDB) for the purpose of deriving representative nutrient values for foods consumed in the U.S. Values from the NNDB are released in Agriculture Handbook No. 8, "Composition of Foods * * * Raw, Processed, Prepared," and as part of the USDA Nutrient Data Base for Standard Reference. These values are used, in turn, as the core of most nutrient data bases developed in the U.S. for special purposes, such as those used in the commercially available dietary analysis programs.

The USDA produces the Survey Nutrient Data Base from the NNDB for analysis of nationwide dietary intake surveys. The Survey Nutrient Data Base contains data for 28 food components and energy for each included food item. A system is in place at USDA to periodically update this Nutrient Data Base with the most current information available from the NNDB. A continuous goal for the Survey Nutrient Data Base is its expansion and improvement to achieve adequate representation of foods and nutrients for nutrition monitoring purposes. Currently, only a limited number of the foods within the NNDB and the Survey Nutrient Data Base have separate entries by brands. A review of the need for more descriptive specificity, including brand name information, needs to be based on the uses of the data.

FDA's Total Diet Study provides information on the levels of various nutritional elements and organic and elemental contaminants in the U.S. food supply. Foods are core foods in the U.S. food supply based on consumption data from NFCS and NHANES. Foods are collected from retail markets, prepared for consumption, and analyzed individually for nutrients and other food components at the Total Diet Laboratory.

Food composition data bases must evolve and change continually to respond to the changing food supply and changing public health issues. Additional data may need to be incorporated to strengthen the existing data base, or values may become obsolete as measurement systems are improved or as foods change over time. Food composition values need to be continually evaluated and periodically updated.

Proposed Activities

V–A–4.1

Evaluate the specificity of food items on the current Survey Nutrient Data Base, in terms of known long-range needs for nutrition monitoring purposes for not only the general population but also ethnic subgroups, and update food types where current level of specificity is inadequate.

Lead organizations: ARS, CDC/NCHS, HNIS.

Collaborating organizations: FDA, FNS, NMFS.

V–A–4.2

Develop and implement a plan for prioritizing and adding components to the Survey Nutrient Data Base including nutrient components and non-nutrient food components.

Lead organizations: ARS, CDC/NCHS, HNIS.

Collaborating organizations: CSRS, EPA, FDA, FNS, NIH.

V–A–4.3

Establish a government-industry task force or other mechanism to increase voluntary contribution of food composition information by food industry and to encourage the use of standardized food composition measurements by food industry to facilitate the use of their data for nutrition monitoring purposes.

Lead organization: HNIS.

Collaborating organizations: ARS, FDA, FSIS, NMFS.

V–A–4.4

Evaluate the effectiveness of criteria used for verifying and updating food composition values over time and revise as appropriate. Verification of values should include evaluation of food recipes or formulas that may be used to generate the values.

Lead organization: HNIS.

Collaborating organizations: CDC/NCHS, FDA.

V–A–4.5

Develop, implement, and maintain procedures for tracking changes to the food composition and nutrient data bases that will permit trend anal dietary intake data.

Lead organizations: CDC/NCH HNIS.

Collaborating organizations: IF Working Group on Food Compos Data.

V–A–4.6

Determine the extent of documentation needed by users improve interpretation of food component intake data derived fr survey nutrient and food coding bases, and establish procedures provide the information to users.

Lead organization: HNIS.

Collaborating organizations: C NCHS, FDA, FNS.

V–A–4.7

Develop and implement a plan establishing and maintaining a nutritional supplements data bas

Lead organizations: CDC/NCH FDA, HNIS.

5. Food Supply Determinations

Since the beginning of this cen U.S. food supply estimates have indicated levels of foods and nut available for consumption. Thus, changes in the American diet ca evaluated from an historical perspective. These data can also used to assess the potential of th food supply to meet the nutrition needs of the population and may useful in epidemiological studies the dissemination of food supply estimates has not been as wides as data from other components monitoring system. Awareness th data, their potential uses and lim need to be increased. Emphasis placed on documentation, interp and usefulness of the data for m the needs of researchers, policy program managers, health profe and the media.

Primary information used in calculating food supplies comes variety of governmental and pri sources. Since 1981, data losses regarding commercial productio fresh and processed fruits and vegetables pose a serious probl estimating per capita disappear produce. Other significant data include estimates of stocks and commodity disposition, for exa seeds. Information on cereals a bakery products has always be sparse, the principal source bei rather spotty coverage in the quinquennial Census of Manufa Thus, identification of alternati sources and improved collectio

om current sources is needed to evelop food disappearance estimates.

roposed Activities

-A-5.1

Develop and implement a strategy to ncrease awareness, understanding, and se of food supply data with emphasis n interpretation and documentation for olicy applications.

Lead organization: HNIS.

Collaborating organization: ERS.

-A-5.2

Reevaluate methods for obtaining ommodity disappearance data eriodically for appropriateness, and if dicated, devise new or modified rocedures to improve accuracy or fill ata voids, using alternative data urces.

Lead organization: ERS.

Collaborating organizations: HNIS, MFS.

-A-5.3

Seek industry cooperation to improve e accuracy of food supply terminations, including reinstatement pack data for many processed fruit d vegetable products.

Lead organization: ERS.

Collaborating organizations: AMS, NIS, NMFS.

ojective V-B. Improve the mparability and Quality of Data ross the NNMS

An integral part of the coordination of trition monitoring activities is the use standardized or comparable thodologies for the collection, quality ntrol, analysis, and reporting of data. rtain basic criteria for sampling signs would allow the ability to mpare, link, and combine data ween surveys. Comparability would o be enhanced by the identification d use of standardized questions or asurement methods for selected key pulation descriptors and indicators of ritional and health status. For mple, any NNMS survey that collects ormation on the use of vitamin/ neral supplements should include a ommended minimum set of plement usage questions. This imum set could be augmented by er questions dependent upon the vey's data needs and objectives. he IBNMRR Working Group on vey Comparability has begun the cess of documenting similarities and erences for selected key population criptors and nutrition-related health iables across NNMS surveys. This vity is the first step in providing ommendations about the common ge, definitions, and reporting of key survey variables, including race, ethnicity, education, income, and self-reported height and weight.

In addition, a recent report entitled Sampling Designs and Population Descriptors of Nationwide Food Consumption Surveys and National Health and Nutrition Examination Surveys (5), completed under contract with the Research Triangle Institute, examined the comparability of sampling designs and selected population descriptors in the two cornerstone NNMS surveys. The report recommended options for increasing comparability between the two surveys.

1. Nutrition and Related Health Measurements

Although many of the surveys in the NNMS include nutrition and related health indicators, there is no standardized set of questions, assessments, and procedures that have been agreed upon or used across surveys to measure nutrition and related health status. Without common definitions, the comparison of nutritional and related health findings among different surveys is limited.

Recently, an expert panel convened by LSRO/FASEB identified "Core indicators of nutritional state for difficult-to-sample populations" (23). This report developed a conceptual model but did not describe specific methods, questions or indicators for nutritional status assessment. Further work is needed to review the applicability of this model to the general population and to identify the specific assessments that constitute a minimum set of indicators to measure nutritional status.

Proposed Activities

V-B-1.1

Establish a consensus and publish a set of key standardized indicators "by nutritional issue" to be included as a part of several types of NNMS surveys that collect nutrition and related health data, and implement recommendations in appropriate surveys.

Lead organizations: ARS, CDC/NCHS, NIH.

Collaborating organizations: CDC/NCCDPHP, CDC/NCEHIC, HNIS, HRSA, IHS.

V-B-1.2

Identify the most appropriate laboratory methodologies for key nutritional biochemistry indicators and publish the results as a reference document to provide comparability and quality with national data.

Lead organizations: ARS, CDC/NCEHIC, NIH.

Collaborating organizations: CDC/NCCDPHP, CDC/NCHS, CSRS, HRSA.

2. Food and Nutrient Consumption

Given the scope of food consumption issues that need to be addressed by the NNMS, no one survey can provide all the necessary information to comprehensively address the system needs while at the same time meeting agency-specific needs. An effective system for monitoring food consumption and dietary status should include information from several surveys. For example, household food use and individual food intake data are needed by groups such as the agricultural, educational, and public health communities. Agricultural groups use these data to assess the impact of changing food intake on food production and marketing. Educational groups use these data in developing effective nutrition education programs, and public health communities use these data to target groups for nutrition and health intervention programs.

Various methodologies for the collection of food and nutrient consumption are used in several NNMS surveys. Selection of the type of dietary method is dependent upon several factors, including the survey's objectives and needs, intended uses of the data, the study population, and operational procedures. An advantage of having several surveys that collect dietary intake or food consumption data is the ability to link or compare data for various groups within the population by characteristics such as age, sex, income, race, ethnicity, and other sociodemographic variables. Data users can then have access to dietary intake data for various subgroups of the population and compare or link findings across surveys. This linkage will be improved as the data collection methodologies for measuring dietary intake, coding, and analysis become more comparable. Calibration between dietary methods is also needed to improve the usefulness and interpretation of the data derived from various dietary methods.

Proposed Activities

V-B-2.1

Establish a consensus and publish a set of key food consumption and food assistance program participation questions to be included as a part of several types of NNMS surveys that collect data on the food and nutrient intake of individuals or household food consumption, and implement

recommendations in appropriate surveys.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: Census Bureau, CDC/NCCDPHP, DOD, EPA, ES, FDA, FNS, HRSA, NIH, NMFS.

V–B–2.2

Review the recommendations in the report by the Research Triangle Institute (5) for improving the comparability of sample design and population descriptors in the next NHANES and NFCS/CSFII and implement appropriate recommendations in the next surveys. This includes exploration of a joint sampling design to facilitate linked analysis of data.

Lead organizations: CDC/NCHS, HNIS.

V–B–2.3

Identify ways to increase comparability within a dietary method such as the 24-hour recall, food record or food frequency, to improve the quality and usefulness of data; and implement recommended changes including food coding, probing techniques, proxy-reporting, and portion size estimation in order to standardize data collection by method.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organization: CDC/NCCDPHP.

V–B–2.4

Develop a consensus for the standardized reporting of dietary intake measures and survey response rates to set the precedent for other surveys.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: ARS, CDC/NCCDPHP, CSRS, DOD, NIH, IHS.

3. Knowledge, Attitudes, and Behavior Assessments

An effective NNMS system will be able to link surveys collecting data on knowledge, attitudes, and behavior and surveys gathering information on dietary intake and food consumption. Where appropriate, there is a definite need to standardize the questions and methods used to assess the population's dietary and related knowledge, attitudes, and behavior. Questionnaires and indicators need to be evaluated to ensure they are valid and reliable estimators of knowledge, attitudes, and behavior held by the general population and selected subgroups.

Proposed Activities

V–B–3.1

Identify and incorporate a set of key knowledge, attitudes, and behavior questions and measurements among the NNMS surveys.

Lead organizations: CDC/NCCDPHP, FDA, HNIS, NIH.

Collaborating organizations: CDC/NCHS, CSRS, DOD, EPA, FSIS, HRSA.

V–B–3.2

Compile information on methods used to design and evaluate questionnaires used in Federal surveys of knowledge, attitudes, and behavior and prepare a report with recommendations for improving quality of test instruments.

Lead organizations: FDA, HNIS.

Collaborating organizations: CDC/NCCDPHP, CDC/NCHS, DOD, HRSA, NIH.

4. Food Composition and Nutrient Data Bases

The USDA Survey Nutrient Data Base is used by national surveys as well as other research studies and projects requiring nutrient analysis. Since 1982, HANES and NFCS have used the same nutrient data base for analysis and reporting of dietary intakes. However, differences related to how it is used may influence the comparability of the results. There is a need to identify differences in use among users of the Survey Nutrient Data Base and determine the impact on the estimates of dietary intake.

Proposed Activities

V–B–4.1

Document uses of food codes and the Survey Nutrient Data Base and evaluate their uses by CDC/NCHS and HNIS on the interpretation of national survey results.

Lead organizations: CDC/NCHS, HNIS.

V–B–4.2

Develop and publish coding guidelines regarding such issues as default amounts, missing and imputed foods, and brand name food items, for users of the Survey Nutrient Data Base to improve comparability of dietary intake data.

Lead organizations: CDC/NCHS, HNIS.

Objective V–C. Broaden the Research Base for Nutrition Monitoring

Research in various areas is needed before the proposed activities listed under Objectives V–A and V–B can be implemented. The conduct of research in the areas of survey design, questionnaire design, collection methods, laboratory methods, data processing, and data analysis is essential to support the NNMS. Research efforts should focus on identification and/or development methods and the utilization of computer technology which will enhance the monitoring of the nutritional status of the U.S. population and support the timely interpretation and release of information to users.

1. Nutrition and Related Health Measurements

To effectively study the relationship among food, nutrition, and health, present knowledge concerning the most reliable and valid, as well as cost effective, measures of nutritional status need to be improved. Research needs can be categorized into 3 areas:

(a) Appropriate methods (such as questionnaires, interviewing procedures and physical measures) for subgroups at increased nutritional risk;

(b) Practical and efficient measures of biochemical and clinical parameters; and

(c) Applied statistical methodology for the collection and interpretation of NNMS data.

Proposed Activities

V–C–1.1

Conduct research on methods for survey sampling, design and data collection and measurement procedures that permit reliable estimation of nutrition and related health indicators for highrisk subgroups or geographic areas.

Lead organization: CDC/NCHS.

Collaborating organizations: ARS, CDC/NCCDPHP, CSRS, FDA, FNS, HNIS, HRSA, IHS.

V–C–1.2

Develop criteria for interpreting selected nutrition and related health indicators for subgroups of the population such as infants and children, pregnant women, and the elderly.

Lead organizations: ARS, CDC/NCCDPHP, CDC/NCHS, NIH.

Collaborating organizations: NCEHIC, FDA, FNS, IHS.

V–C–1.3

Conduct research to develop, test, and validate laboratory measures of nutritional status and conduct studies to establish relationships between biochemical measures of nutritional status and recent and long-term dietary intake.

Lead organizations: ARS, CDC/ CDPHP, CDC/NCEHIC, CDC/NCHS. H.

Collaborating organizations: CSRS, D, HRSA.

Food and Nutrient Consumption

There is a widely recognized need for engthening the scientific base for the llection and interpretation of food sumption and dietary status asurements. Survey methodologies d to be developed to increase the rmation about the relationship ween dietary patterns and chronic ease or health. Research falls into 2 ad categories:

) Methodological research specific ne conduct of surveys and the asurement of dietary status; and) Research that will improve the rpretation and usefulness of data to cymakers, health professionals, food stry, media, and others in the ition community.

Proposed Activities

V–2.1

plement the recommendations of National Academy of Sciences 1986 rt (24) for assessing nutrient quacy by determining the ibution of nutrient requirements ng major age-sex groups and ucting research to estimate usual ent intake so that the proportion of opulation at risk for dietary equacy may be estimated.

ad organization: ARS.

llaborating organizations: CDC/ S, CSRS, HNIS, NIH.

2.2

velop and implement a procedure end analysis of nutrient intakes akes into account and adjusts for vements that are made over time d composition data.

id organizations: CDC/NCHS.

2.3

duct research on methods for y sampling, design and data tion and measurement procedures ermit reliable estimation of dietary indicators for high-risk subgroups graphic areas.

d organizations: CDC/NCHS.

laborating organizations: CDC/ PHP, NMFS.

2.4

ommend a standardized nism and instrument for defining otaining data on the prevalence of insufficiency" in the U.S. and a methodology that can be used across the NNMS and at State and local levels.

Lead organizations: CDC/NCHS, FNS, HNIS.

Collaborating organizations: CDC/ NCCDPHP, CSRS, HRSA, ERS, ES.

V–C–2.5

Investigate the impact of food assistance and Federally supported food service programs on the food consumption patterns and dietary status of population groups and subgroups.

Lead organizations: FNS, DOD.

Collaborating organizations: CDC/ NCCDPHP, IHS.

V–C–2.6

Review methodologies for assessing data on household food consumption and the money value of food for the general population and revise methodologies as appropriate.

Lead organization: HNIS.

Collaborating organizations: BLS, Census Bureau, ERS, EPA, FNS, NMFS.

V–C–2.7

Investigate methods for accounting for the levels of nutritional supplement use by the population in dietary intake surveys.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organization: FDA.

3. Knowledge, Attitudes, and Behavior Assessments

Knowledge, attitudes, and behavior have the capability of influencing willingness and ability to put dietary recommendations into practice. They are susceptible to change through appropriately targeted nutrition interventions. It is essential to understand the role that knowledge, attitudes, and behavior about dietary recommendations and diet-health relationships play in determining food choices, and ultimately nutrient intake and health status. This will aid in the development of public health strategies at Federal, State, and local levels to improve dietary status, promote health, and prevent nutrition-related disease.

Proposed Activities

V–C–3.1

Conduct research to identify the relationship of dietary knowledge and attitudes to food-related behavior, food and/or nutrient intake, health status, and cultural and self-care health practices to recommend changes in survey questionnaires and to examine theories of behavior change.

Lead organizations: FDA, HNIS, NIH.

Collaborating organizations: CDC/ NCHS, CSRS, DOD, HRSA.

V–C–3.2

Conduct research to determine consumer use and understanding of the nutrition information on food labels by the general population and selected subgroups of the population.

Lead organization: FDA.

Collaborating organizations: CSRS, FSIS, HNIS.

V–C–3.3

Conduct research to identify the relationship of knowledge and attitude parameters to dietary behavior and nutrient intake, which will contribute to a set of key knowledge, attitudes, and behavior questions.

Lead organization: HNIS.

Collaborating organizations: CDC/ NCCDPHP, CSRS, DOD, NIH.

V–C–3.4

Determine information needed on consumer knowledge, attitudes, and behavior about issues regarding food safety and labeling; then, modify existing surveys of knowledge, attitudes, and behavior, or develop a new survey if appropriate.

Lead organization: FDA.

Collaborating organizations: CDC/ NCCDPHP, CDC/NCHS, DOD, EPA, FSIS, HNIS, HRSA, NIH.

4. Food Composition and Nutrient Data Bases

Sources of analytical data for the NNDB include government laboratories, the food industry, the scientific literature, and private laboratories under contract with USDA. Even though the NNDB contains thousands of individual food composition values, gaps and deficiencies still exist for some foods, food components and specific nutrients. This will continue for the foreseeable future because of cost and the lack of reliable measurement systems for certain food components. Therefore, methods for developing food composition values other than analyses of large numbers of samples must be frequently used, such as using data for a limited number of samples, calculating values from other forms of a food, or using a recipe to calculate the nutrient profile of a food composed of several ingredients. These methods need to be evaluated to ensure their appropriate use, and a plan is needed to prioritize needs for development of measurement systems and generation of food composition data.

Proposed Activities

V–C–4.1

Evaluate the different approaches (e.g., chemical analyses, imputation, number of samples, and methods) used to produce nutrient values, and establish criteria for their use.

Lead organizations: ARS, FDA, HNIS.

Collaborating organizations: CDC/NCHS, CSRS.

V–C–4.2

Using criteria established in activity V–C–4.1, evaluate the current status of food composition data and develop and implement a plan for the generation of data where deficiencies exist.

Lead organizations: ARS, HNIS.

V–C–4.3

Develop field measurement systems and appropriate quality control materials for generation of reliable, accurate, and precise food composition data. Coordinate methods development and related activities among Federal government laboratories performing food composition analyses. Initiate process for new methods to receive "official methods" status by such organizations as Association of Official Analytical Chemists, American Association of Cereal Chemists, or American Oil Chemists Society.

Lead organizations: ARS, FDA.

Collaborating organization: FSIS.

5. Food Supply Determinations

Estimates of the nutrient content of the U.S. food supply include nutrients naturally present in about 350 primary, mostly unprocessed food commodities, as well as nutrients entering the food supply as additives through enrichment and fortification. Quantities of "added" nutrients have been based on six surveys of nutrient producers and importers conducted between 1946 and 1970. Many changes have occurred in the food supply since the last survey in 1970 including an increase in the number and levels of nutrients added in fortification as well as the number of foods which are enriched or fortified. New data are needed to maintain the accuracy of the food supply nutrient series. A review of potential data sources and the development of alternate methods of data collection are needed for determining nutrients added to the food supply for fortification as well as functional purposes.

Proposed Activities

V–C–5.1

Evaluate potential sources of information on nutrients added to the food supply for enrichment, fortification, and functional purposes and determine the most appropriate method to collect these data.

Lead organization: HNIS.

Collaborating organizations: ERS, FDA.

V–C–5.2

Plan and conduct research on nutrients added for enrichment, fortification, and functional purposes based on the most appropriate method as determined by activity V–C–5.1.

Lead organization: HNIS.

Collaborating organizations: ERS, FDA.

VI. State and Local Objectives and Activities

In order to create an effective and comprehensive NNMS, it is necessary to enhance State and local capacity to monitor nutritional status and dietary practices in a way that coordinates with and complements national nutrition surveys. In 1990, 40 States participated in the Pediatric Nutrition Surveillance System (PedNSS), 18 States participated in the Pregnancy Nutrition Surveillance System (PNSS) and 43 in the Behavioral Risk Factor Surveillance System (BRFSS). Also in 1990, nutrition components were added to the Youth Risk Behavior Survey (YRBS) and BRFSS to enable States to begin to look at nutrition-related issues in the school-aged and adult populations, respectively. These surveys and surveillances are coordinated by the National Center for Chronic Disease Prevention and Health Promotion (CDC/DHHS).

A major program emphasis within USDA's Cooperative Extension Service is nutrition, diet and health programs. These educational programs are conducted in 3150 counties in all States and territories reaching approximately 10–12 million people of all age groups and income levels. The Food and Nutrition Service, USDA, also initiates a variety of State and local programs that promote the importance of good nutrition and its relationship to health.

Continued support and expansion of State-based surveillance systems are needed to track State-based nutrition objectives (25) and to enhance program management. In addition, activities at State and local levels are needed to motivate changes in dietary practice to achieve the proposed nutrition objectives.

The Survey of State Nutrition Surveillance Efforts carried out in 1988 by the Association of State and Territorial Public Health Nutrition Directors (ASTPHND) indicated that 80% of States rated participation in nutrition monitoring as very impo or crucial. Major limitations to fu participation in nutrition monitor included insufficient professional limited funding, and non-automat data collection systems (26).

Objective VI–A: Develop and Str State and Local Capacity for Continuous and Coordinated Nut Monitoring Data Collection

State and local data are neede detect emerging nutrition issues, monitor trends in nutrition-relate health problems, to plan and eva nutrition interventions, to measu quality of nutrition services, and assess the effectiveness of food assistance and other programs. A States and localities strive to imp strategies and objectives compar the nutrition objectives in Healt People 2000 (10) and Healthy Communities 2000: Model Standa (25), both baseline and continuin will be necessary to monitor loc progress.

The development of a State st to carry out nutrition monitoring needed. Staff should be trained i collection, analysis, and applica nutrition data. State laboratorie be able to support State and loc monitoring efforts which should feasible and also compatible wi national efforts. State and local monitoring systems should also advantage of new technology fo electronic data transfer.

Proposed Activities

VI–A–1

Provide assistance for the development and maintenance structure, staff and programs fo nutrition monitoring.

Lead organization: CDC/NC

Collaborating organizations: NCEHIC, CDC/NCHS, CSRS, E HRSA.

VI–A–2

Expand the coverage of curre and local nutrition monitoring in selected population groups t technical assistance and grant

Lead organization: CDC/NC

Collaborating organizations: NCEHIC, CDC/NCHS, CSRS, E HRSA.

VI–A–3

Develop and implement an a nutrition surveillance system f States and localities to monito based nutrition objectives as w target subgroups of the popula increased nutritional risk.

Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCEHIC, CDC/NCHS, CSRS, ES, FNS, HRSA.

VI–A–4

Develop and test the feasibility of a model school-based nutrition data collection system including height, weight and indicators of knowledge, attitudes and dietary practices in school-aged children.
Lead organizations: CDC/NCCDPHP, CDC/NCHS.
Collaborating organizations: DOE, FNS, HRSA, IHS.

VI–A–5

Develop and expand State and local laboratory capacity to support nutrition monitoring activities through technical assistance and grant awards.
Lead organizations: CDC/NCCDPHP, CDC/NCEHIC.
Collaborating organizations: CDC/NCHS, ARS.

Objective VI–B: Improve Methodologies To Enhance Comparability of NNMS Data Across Federal, State, and Local Levels

In order for States and localities to compare their nutrition and related health data, including food consumption, with that of other States and with national nutrition data, core indicators, standard methodologies, and interpretive criteria must be developed which are consistent across States and comparable to national nutrition surveys.

Proposed Activities

VI–B–1

As appropriate laboratory methodologies are identified for nutritional biochemistry indicators (activity V–B–1.2), periodically develop, publish, update, and disseminate manuals on model State laboratory programs.
Lead organizations: ARS, CDC/NCEHIC.
Collaborating organizations: STHPHLD, CDC/NCCDPHP, CDC/NCHS, HRSA.

VI–B–2

Develop statistical methodologies to create State and local estimates based on data from national nutrition surveys and disseminate these methodologies via computer software.
Lead organizations: CDC/NCHS, HNIS.
Collaborating organizations: CDC/NCCDPHP, ES, FNS.

VI–B–3

Develop methodologies and publish guidance materials to link and utilize existing State and local data sets such as vital records data, Medicaid program data, and nutrition program data for nutrition program management and evaluation.
Lead organizations: CDC/NCCDPHP, CDC/NCHS.
Collaborating organizations: ES, FNS, HRSA.

VI–B–4

Establish and implement practical mechanisms to utilize and link existing industry-based food purchasing data with consumption data for monitoring dietary changes at State and local levels.
Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCHS, FDA, HNIS, NIH, ODPHP.

Objective VI–C: Improve the Quality of State and Local Nutrition Monitoring Data

For continuance of data quality at the State and local levels, periodic training in the collection, analysis, and use of nutrition monitoring data will be important. Success in utilizing and disseminating State and local nutrition monitoring data will be key factors in assessing the usefulness of nutrition monitoring efforts. Periodic evaluation of State and local monitoring systems should be performed in order to assure that State and local needs are met.

Proposed Activities

VI–C–1

Provide technical assistance and training to State and local agencies on the collection, analysis and use of nutrition monitoring data.
Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCHS, CSRS, ES, HNIS, HRSA, IHS.

VI–C–2

Develop, publish, and disseminate a practitioner's guide and training programs targeted to advocates, local governments, Cooperative Extension Service (CES), and public health personnel on how to access and use available nutrition monitoring and surveillance data.
Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCHS, ES, HNIS, HRSA.

VI–C–3

Develop and carry out a training program to implement the model State laboratory program for nutrition monitoring.
Lead organizations: ARS, CDC/NCEHIC.
Collaborating organizations: CDC/NCCDPHP, CSRS.

VI–C–4

Develop a directory of the content and extent of nutrition monitoring activities at the State level and incorporate this directory into the updates of *Nutrition Monitoring in the United Stotes: The Directory of Federal Nutrition Monitoring Activities.*
Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCHS, ES, FNS, IBNMRR Federal-State Relations and Information Dissemination and Exchange Working Group.

VII. Calendar for Proposed IBNMRR, National, and State and Local Objectives and Activities

This section contains a calendar for the required and proposed activities of the IBNMRR (tables VII–1 and VII–2) and for proposed activities for each of the five component measurement areas (table VII–3 through VII–7), and for proposed activities for States and localities (table VII–8). The calendars are designed to provide an overview of when activities will be conducted and to address accountability and timeliness. A coding system was devised to indicate the stage of development for each activity. A "P" indicates that the planning steps essential prior to the initiation of an activity are being conducted; an "*" means the activity has been initiated, such as the awarding of a contract or the starting of a research project; an "X" represents a product, such as a publication, workshop or plan for work; and a continuous line or arrow (=) indicates that an activity is ongoing.

BILLING CODE 4160-18-M

federal register

Tuesday
October 29, 1991

Part II

Department of Health and Human Services

Department of Agriculture

Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program; Notice

ARTMENT OF HEALTH AND AN SERVICES

ARTMENT OF AGRICULTURE

Year Comprehensive Plan for the nal Nutrition Monitoring and ed Research Program

CIES: Department of Health and an Services (DHHS) and rtment of Agriculture (USDA).

ON: Notice of Ten-Year prehensive Plan for the National tion Monitoring and Related arch Program and request for ments.

MARY: Section 103 of the National tion Monitoring and Related arch Act of 1990 (Pub. L. 101-445) res the publication of a proposed prehensive plan for nutrition toring for public review. The 10- plan set forth below was developed y by DHHS and USDA in ultation with the Interagency Board utrition Monitoring and Related arch. Comments are requested ding this 10-year Comprehensive for the National Nutrition toring and Related Research ram.

CTIVE DATE: October 22, 1991. ten comments on all aspects of the are welcome. We are especially ested in comments about the fic activities in the plan, including comprehensiveness, scope, and nt. Please identify activity V-C- Comments should be made in ng by January 22, 1992, to either of ddresses specified below.

RESSES: Written comments should ddressed to Ms. Alanna Moshfegh, an Nutrition Information Service, Department of Agriculture, 6505 rest Road, rm. 366, Hyattsville, MD 2, or Dr. Ronette Briefel, Centers for ase Control/National Center for th Statistics, 6525 Belcrest Road, 00, Hyattsville, MD 20782.

FURTHER INFORMATION CONTACT: Alanna Moshfegh (see address ve), telephone (301) 436-8457, or Dr. ette Briefel (see address above), hone (301) 436-3473.

he following is the proposed Ten- Comprehensive Plan for the ional Nutrition Monitoring and ted Research Program issued jointly he USDA and DHHS for public ment.

Dated: October 22, 1991.

Catherine Bertini,

Assistant Secretary for Food and Consumer Services, Department of Agriculture.

James O. Mason,

Assistant Secretary for Health, Department of Health and Human Services.

Acronyms and abbreviations
I. Introduction
II. The National Nutrition Monitoring System (NNMS)
A. Purposes and uses of NNMS data
B. Milestones of the NNMS
C. Structure of Federal coordination of the NNMRRP
D. The National Nutrition Monitoring Advisory Council
III. Format of the proposed activities
IV. Activities of the IBNMRR
V. National objectives and activities
Objective V-A: Provide for a comprehensive NNMS through continuous and coordinated data collection
1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases
5. Food supply determinations
Objective V-B: Improve the comparability and quality of data across the NNMS
1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases
Objective V-C: Broaden the research base for nutrition monitoring
1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases
5. Food supply determinations
VI. State and local objectives and activities
Objective VI-A: Develop and strengthen State and local capacity for continuous and coordinated data collection
Objective VI-B: Improve methodologies to enhance comparability of NNMS data across Federal, State, and local levels
Objective VI-C: Improve the quality of State and local nutrition monitoring data
VII. Calendar for proposed national, State and local objectives and activities
VIII. References
IX. Appendixes
Appendix 1 Joint DHHS-USDA Working Group
Appendix 2 Nutrition monitoring activities from 1896 to 1991
Appendix 3 Current and proposed nutrition monitoring activities from 1992-2002
Appendix 4 Overview of current NNMS surveys and surveillance activities
Appendix 5 Detailed conceptual model of food to health
Appendix 6 Illustration of the relationships among nutrition policymaking, research, and monitoring with respect to a coronary risk factor, biomedical education program
X. Glossary

Acronyms and Abbreviations

The following list of acronyms and abbreviations is provided as a quick index of Federal departments, agencies, survey activities, and non-Federal organizations that are mentioned more than once in this report. Parenthetical acronyms and abbreviations identify the parent department and agencies to which the listed agencies or committees belong.

AMS	Agricultural Marketing Service (USDA).
ARS	Agricultural Research Service (USDA).
ASTHPHLD	Association of State and Territorial Public Health Laboratory Directors.
ASTPHND	Association of State and Territorial Public Health Nutrition Directors.
BHE	Bureau of Home Economics (USDA).
BHNHE	Bureau of Human Nutrition and Home Economics (USDA).
BLS	Bureau of Labor Statistics (DOL).
BRFSS	Behavioral Risk Factor Surveillance System (DHHS/PHS/CDC/NCCDPHP).
CES	Cooperative Extension Service (USDA).
CDC	Centers for Disease Control (DHHS).
CFERD	Consumer and Food Economics Research Division (ARS/USDA).
CSFII	Continuing Survey of Food Intakes By Individuals (UDSA/HNIS).
CSRS	Cooperative State Research Service (USDA).
CSSS	Coordinated State Surveillance System (DHHS/PHS/CDC/NCCDPHP).
DHEW	Department of Health, Education, and Welfare.
DHHS	Department of Health and Human Services.
DOC	Department of Commerce.
DOD	Department of Defense.
DOL	Department of Labor.
EPA	Environmental Protection Agency.
ERS	Economic Research Service (USDA).
ES	Extension Service (USDA).
FASEB	Federation of American Societies for Experimental Biology.
FDA	Food and Drug Administration (DHHS/PHS).
FLAPS	Food Labeling and Package Survey (DHHS/PHS/FDA).
FNS	Food and Nutrition Service (USDA).
FSIS	Food Safety and Inspection Service (USDA).
HERB	Home Economics Research Branch (ARS/USDA).
HHANES	Hispanic Health and Nutrition Examination Survey (DHHS/PHS/CDC/NCHS).
HNIS	Human Nutrition Information Service (USDA).

HRSA	Health Resources and Services Administration (DHHS).
IBNMRR	Interagency Board on Nutrition Monitoring and Related Research.
ICNM	Interagency Committee on Nutrition Monitoring.
IHS	Indian Health Service (DHHS/PHS).
INFOODS	International Food Composition Data System.
ICHNR	Interagency Committee on Human Nutrition Research.
JNMEC	Joint Nutrition Monitoring Evaluation Committee (DHHS/USDA).
LSRO	Life Sciences Research Office (FASEB).
NASA	National Aeronautics and Space Administration.
NCCDPHP	National Center for Chronic Disease Prevention and Health Promotion (DHHS/PHS/CDC).
NCEHIC	National Center for Environmental Health and Injury Control (DHHS/PHS/CDC).
NCHS	National Center for Health Statistics (DHHS/PHS/CDC).
NCI	National Cancer Institute (DHHS/PHS/NIH).
NCL	Nutrient Composition Laboratory (USDA/ARS).
NFCS	Nationwide Food Consumption Survey (USDA/HNIS).
NHLBI	National Heart, Lung, and Blood Institute (DHHS/PHS/NIH).
NIA	National Institute on Aging (DHHS/PHS/NIH).
NIH	National Institutes of Health (DHHS/PHS).
NHANES	National Health and Nutrition Examination Survey (DHHS/PHS/CDC/NCHS).
NHIS	National Health Interview Survey DHHS/PHS/CDC/NCHS).
NMFS	National Marine Fisheries Service (NOAA/DOC).
NNDB	National Nutrient Data Bank (USDA/HNIS).
NNMAC	National Nutrition Monitoring Advisory Council.
NNMS	National Nutrition Monitoring System.
NOAA	National Oceanic and Atmospheric Administration (DOC).
OASFCS	Office of the Assistant Secretary for Food and Consumer Services (USDA).
OASH	Office of the Assistant Secretary for Health (DHHS/PHS).
ODPHP	Office of Disease Prevention and Health Promotion (DHHS/OASH/PHS).
PedNSS	Pediatric Nutrition Surveillance System (DHHS/PHS/CDC/NCCDPHP).
PHS	Public Health Service (DHHS).
PNSS	Pregnancy Nutrition Surveillance System (DHHS/PHS/CDC/NCCDPHP).
TDS	Total Diet Study (DHHS/PHS/FDA).
USARIEM	United States Army Research Institute of Environmental Medicine (DOD).
USDA	United States Department of Agriculture.
YRBS	Youth Risk Behavior Survey (DHHS/PHS/CDC/NCCDPHP).

I. Introduction

The National Nutrition Monitoring and Related Research Act of 1990 (Pub. L. 101–445) defines the term nutrition monitoring and related research as "the set of activities necessary to provide timely information about the role and status of factors that bear on the contribution that nutrition makes to the health of the people of the United States" (1). The establishment and implementation of a coordinated program is mandated in title I of the Act: "The National Nutrition Monitoring and Related Research Program". The Act requires the preparation of a 10-year comprehensive plan for nutrition monitoring and related research.

The primary goal of the 10-year comprehensive plan is to establish a comprehensive nutrition monitoring and related research program by collecting quality data that are continuous, coordinated, timely, and reliable; using comparable methods for data collection and reporting of results; conducting relevant research; and efficiently and effectively disseminating and exchanging information with data users.

This document provides a brief history and review of past accomplishments of the National Nutrition Monitoring System (NNMS) in the U.S. It also presents the 10-year plan, 1992–2002, describing current nutrition monitoring activities (in appendices) and proposed activities required to improve and expand the nutrition monitoring program (sections IV through VII).

This 10-year comprehensive plan was developed by the Joint Department of Health and Human Services (DHHS) and the United States Department of Agriculture (USDA) Working Group (appendix 1) with broad input from other Federal agencies, the public health community, and other users of nutrition monitoring data, including scientific advisors to Federal agencies, food and nutrition researchers, economists, food industry, and academia. In addition, recommendations for the NNMS made by scientific experts over the past decade, including the Joint Nutrition Monitoring Evaluation Committee (2), the Expert Panel on Nutrition Monitoring (3), the Coordinating Committee on Evaluation of Food Consumption Surveys of the National Research Council (4), and the Research Triangle Institute (RTI) (5) were considered in the development of this plan. The activities in this plan reflect four areas: (a) Requirements of the law; (b) priorities identified by Federal agencies responsible for conducting nutrition monitoring surveys and related activities; (c) recommendations [illegible] scientific experts and organizati[illegible] (d) recommendations from users [illegible] NNMS data.

II. The National Nutrition Monit[illegible] System

The NNMS is a complex asso[illegible] interconnected activities which [illegible] information about the contributi[illegible] diet and nutritional status make [illegible] health of the American people a[illegible] about the factors affecting dieta[illegible] nutritional status (6). A chronolo[illegible] listing of past (1896–1991) nutriti[illegible] monitoring surveys and activitie[illegible] classified by the five NNMS com[illegible] is found in appendix 2. The NNM[illegible] activities are grouped into five measurement components:

- Nutrition and related health measurements,
- Food and nutrient consump[illegible]
- Knowledge, attitudes, and b[illegible] assessments,
- Food composition and nutri[illegible] bases, and
- Food supply determination[illegible]

Data and information derived fr[illegible] components are used to assess [illegible] dietary, nutritional and related [illegible] status of the population.

Currently, more than 40 surve[illegible] surveillance systems have evol[illegible] response to the information nee[illegible] Federal agencies and other dat[illegible] Appendix 3 lists current and pr[illegible] surveys and systems from 1992-[illegible] organized by the five compone[illegible] A brief description of the surve[illegible] surveillance activities that con[illegible] NNMS is found in appendix 4.

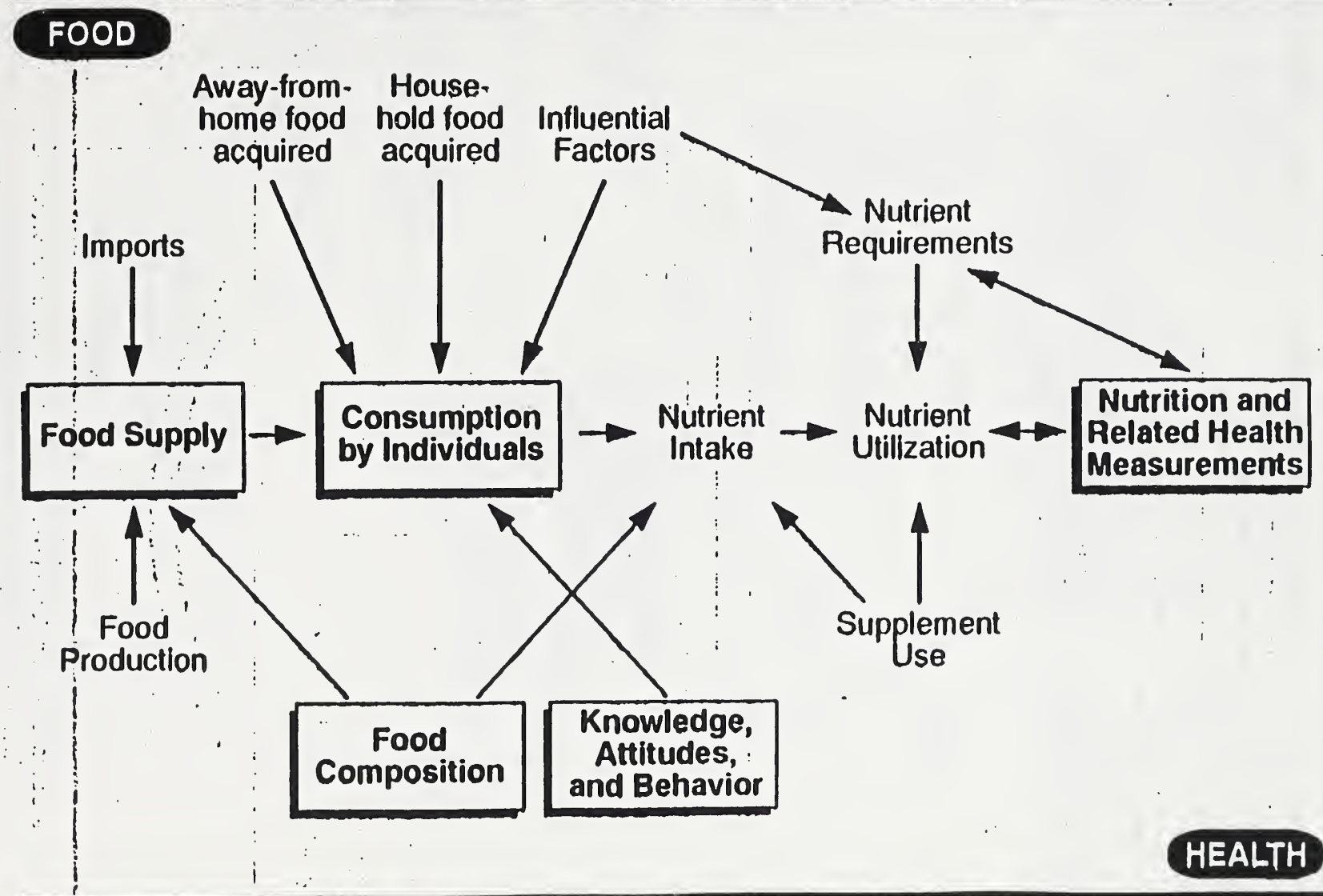
A general conceptual model [illegible] representing the relationship b[illegible] food and health among the five [illegible] components is presented in Fig[illegible] A detailed model is found in a[illegible]

A. Purposes and Uses of NNMS

Nutrition monitoring is vital [illegible] policymaking and research (fig[illegible] Monitoring provides informati[illegible] data base for public policy dec[illegible] related to nutrition education; [illegible] health nutrition programs; food [illegible] assistance programs; Federally [illegible] supported food service progra[illegible] regulation of fortification, safe[illegible] labeling of the food supply; an[illegible] production and marketing. The [illegible] also provides a data base to e[illegible] research priorities. Table II–1 [illegible] examples of the general uses o[illegible] data. Appendix 6 provides one [illegible] example of how NNMS data [illegible] health education program.

More specifically, data from [illegible] NNMS have been used to dev[illegible]

Figure II-1. Relationship of Food to Health.*



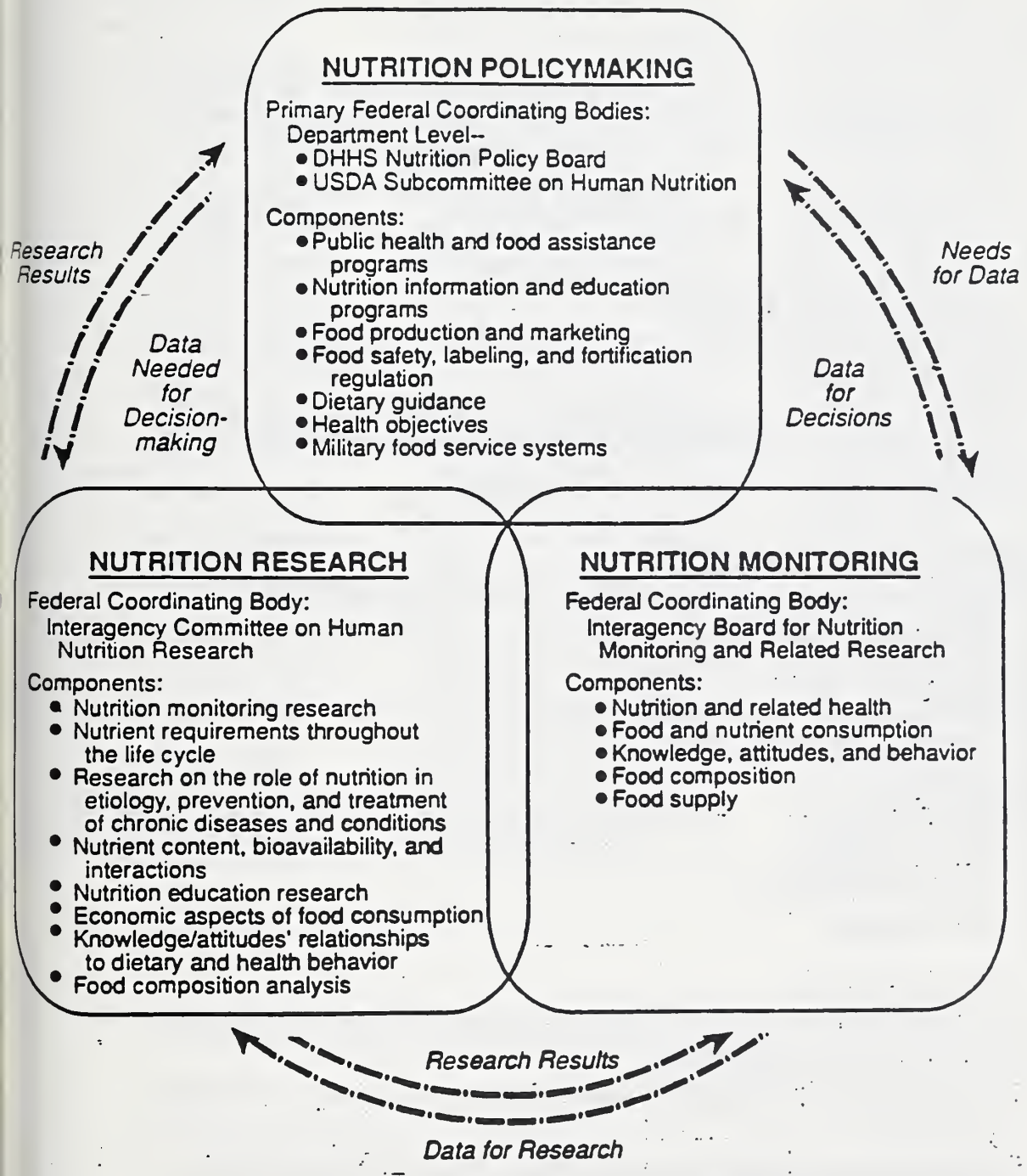
*Boxes indicate 5 components of the NNMS. Detailed conceptual model is found in Appendix 5

Dietary Guidelines for Americans (7) and the Thrifty Food Plan (8), to evaluate progress towards achievement of the 1990 Health Objectives for the Nation (9) and to develop the nutrition and related health objectives included in Healthy People 2000: National Health Promotion and Disease Prevention Objectives (10). These data will also be used to track trends and progress toward achieving the Health Objectives and meeting the Dietary Guidelines. Another important use of NNMS data is in the development of the Recommended Dietary Allowances (RDAs) and in identifying areas of nutrition research that are needed to increase the knowledge base and revise the standards of human nutrient requirements (11).

Data have been used by regulatory agencies to examine U.S. fortification policies (12), to provide dietary exposure estimates for nutrient and non-nutrient food components (13), and as a basis for components of food labeling (14). Data have also been used to provide information about the relationship between diet, nutrition, and health such as in The Surgeon General's Report on Nutrition and Health (15) and the National Academy of Science's report on Diet and Health: Implications for Reducing Chronic Disease Risk (16), to identify food and nutrition research priorities of significance to public health and food sufficiency, and to evaluate the impact of nutrition initiatives for military feeding systems (17).

BILLING CODE 4160-18-M

Figure II-2. Relationships among Nutrition Policymaking, Research, and Monitoring*



*Adapted from the Operational Plan for the National Nutrition Monitoring System (6).

Table II-1. Uses of Nutrition Monitoring Data

I. Public Policy

A. Monitoring and surveillance:

- Identify high-risk groups and geographical areas with nutrition-related problems to facilitate implementation of public health intervention programs and food assistance programs
- Evaluate changes in agricultural policy which may affect the nutritional quality and healthfulness of the U.S. food supply
- Assess progress toward achieving the nutrition objectives in Healthy People 2000 (10)
- Evaluate the effectiveness of nutritional initiatives for military feeding systems
- Report health and nutrition data from State-based programs to comply with Federal administrative program requirements
- Monitor food production and marketing

B. Nutrition-related programs:

- Nutrition education and dietary guidance (Dietary Guidelines for Americans) (7)
- Food assistance programs
- Nutrition intervention programs
- Public health programs

C. Regulatory:

- Food labeling
- Food fortification
- Food safety

II. Scientific Research

- Nutrient requirements (Recommended Dietary Allowances) (11)
- Diet-health relationships
- Knowledge and attitudes' relationships to dietary and health behavior
- Nutrition monitoring research--national and international
- Food composition analysis
- Economic aspects of food consumption
- Nutrition education research

BILLING CODE 4160-16-C

3. Milestones of the NNMS

Table II–2 provides a listing of the milestones of the NNMS beginning with the Food and Agriculture Act of 1977. The NNMS was formally established as a result of the passage of this Act, which required the Secretaries of USDA and the U.S. Department of Health, Education and Welfare (currently DHHS) to submit a proposal for a comprehensive nutritional status monitoring system to Congress (18–19). The proposal included an analysis of deficiencies in the existing surveys and surveillance systems and provided recommendations for improving and expanding the scope of Federal nutrition monitoring activities. Upon recommendation of the General Accounting Office, DHHS and USDA prepared the Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System and submitted it to Congress in September, 1981. This plan described the major goals and objectives of the NNMS and how the Departments intended to achieve them (20). The two specific objectives of the implementation Plan were:

- Achievement of the best possible coordination between the two largest components of the NNMS—the National Health and Nutrition Examination Survey (NHANES) and the Nationwide Food Consumption Survey (NFCS);
- Development of a reporting system to translate the findings from these two national surveys and other monitoring activities into periodic reports to Congress on the nutritional status of the American population.

According to this plan, a Joint Nutrition Monitoring Evaluation Committee (JNMEC) was to develop reports to Congress at 3-year intervals. In 1983, the JNMEC was established as a Federal advisory committee and prepared the report entitled, Nutrition Monitoring in the United States: A Progress Report from the Joint Nutrition Monitoring Evaluation Committee. This report provided an overview of the dietary and nutritional status of the population and was transmitted to Congress in July, 1986. (2) During this time period (1984), there was also a report prepared by the National Academy of Sciences which was funded by USDA and DHHS. This publication described uses of food consumption data and recommendations on survey design that would facilitate wider application of survey data (4).

In 1987, DHHS and USDA published an Operational Plan for the National Nutrition Monitoring System (6), a revision of the 1981 Joint Implementation Plan (20). The goals of the Operational Plan for the National Nutrition Monitoring System were:

- Achieve a comprehensive system through coordination among NNMS components;
- Improve information dissemination and exchange; and
- Improve the research base for nutrition monitoring.

In 1988, the Interagency Committee on Nutrition Monitoring (ICNM) was established to provide a formal mechanism for facilitating achievement of the system's expanded goals (21). The ICNM was co-chaired by the Assistant Secretary for Health, DHHS, and the Assistant Secretary for Food and Consumer Services, USDA, with representation from Federal agencies with responsibility for nutrition monitoring. The ICNM was responsible for enhancing the effectiveness and productivity of Federal nutrition monitoring efforts by improving the planning, coordination and communication among agencies. As a first step, the ICNM compiled The Directory of Federal Nutrition Monitoring Activities (22). This directory was published in September, 1989, as a companion document to the triennial reports to Congress on nutrition monitoring. This publication has been well received and is extensively used by the public health community, academia, the private sector, and government.

The second progress report to Congress entitled, Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring, published in September 1989, was prepared by an Expert Panel of the Life Sciences Research Office (LSRO), Federation of American Societies of Experimental Biology (FASEB), for USDA and DHHS (3). This report updated the dietary and nutritional status information presented in the 1986 report and provided an in-depth analysis of the contributions of the NNMS to the evaluation of the relationship of dietary and nutritional factors to cardiovascular disease and to the assessment of iron nutriture.

The National Nutrition Monitoring and Related Research Act (Pub. L. 101–445) was signed into law on October 22, 1990 (1). It is intended "to strengthen national nutrition monitoring by requiring the Secretary of Agriculture and the Secretary of Health and Human Services to prepare and implement a ten-year plan to assess the dietary and nutritional status of the United States population, to support research on, and development of, nutrition monitoring, * * *" (1). The Act establishes several mechanisms to ensure the collaboration and coordination of Federal agencies as well as State and local governments involved in nutrition monitoring activities.

BILLING CODE 4100-10-M

Table II-2. Milestones of the National Nutrition Monitoring System

YEAR	MILESTONE
1977	➤ Food and Agriculture Act (Pub. L. 95-113) passed
1978	➤ Proposal for a comprehensive nutritional status monitoring system submitted to Congress
1981	➤ Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System published
1983	➤ Joint Nutrition Monitoring Evaluation Committee formed
1984	➤ National Survey Data on Food Consumption: Uses and Recommendations published
1986	➤ First Report to Congress: Nutrition Monitoring in the United States: A Progress Report from the Joint Nutrition Monitoring Evaluation Committee published
1987	➤ Operational Plan for the National Nutrition Monitoring System published
1988	➤ Interagency Committee on Nutrition Monitoring (ICNM) formed
1989	➤ The Directory of Federal Nutrition Monitoring Activities published
	➤ Second Report to Congress: Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring published
1990	➤ National Nutrition Monitoring and Related Research Act (Pub. L. 101-445) passed
1991	➤ Interagency Board for Nutrition Monitoring and Related Research established through incorporation and expansion of the ICNM

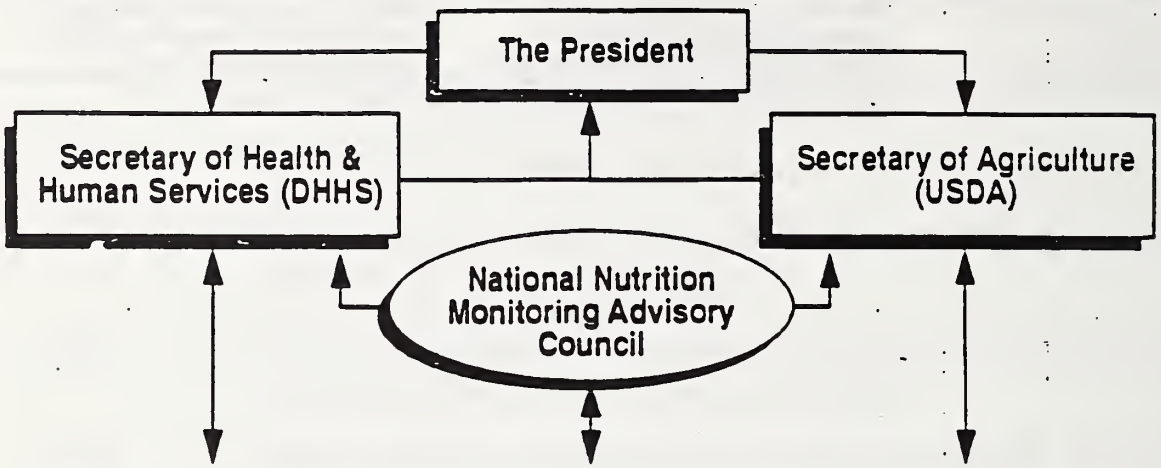
BILLING CODE 4160-18-C

C. Structure of Federal Coordination of the NNMRRP

As specified in the Act, the Secretaries of the DHHS and the USDA have joint responsibility for implementation of the coordinated program and the transmission of required reports to Congress via the President. The Assistant Secretary for Health, DHHS, and the Assistant Secretary for Food and Consumer Services, USDA, have been delegated the responsibility of implementing the program and also serve as joint chairpersons for the Interagency Board for Nutrition Monitoring and Related Research (IBNMRR). The IBNMRR was established in 1991 through the expansion of the function and membership of the ICNM to include other agencies that contribute or use NNMS data. Figure II–3 provides an overview of the Federal structure of coordination of the NNMS.

BILLING CODE 4160-18-M

Figure II-3. Structure of Federal Coordination of the National Nutrition Monitoring and Related Research Program



Interagency Board for Nutrition Monitoring and Related Research

CO-CHAIRS:

Assistant Secretary for Health *

Assistant Secretary for Food and Consumer Services *

MEMBERS:

Agency for International Development
Agricultural Research Service USDA
Alcohol Drug Abuse and Mental Health Administration DHHS
Bureau of the Census DOC
Bureau of Labor Statistics, DOL
Cooperative State Research Service USDA
Department of Defense
** Department of Education
Department of Veterans Affairs
Economic Research Service, USDA
Environmental Protection Agency
Extension Service, USDA
Food and Drug Administration, DHHS
Food and Nutrition Service, USDA
Food Safety and Inspection Service, USDA
Health Resources and Services Administration DHHS
Human Nutrition Information Service USDA
Indian Health Service, DHHS
** National Aeronautics and Space Administration
National Center for Chronic Disease Prevention & Health Promotion, CDC, DHHS
National Center for Health Statistics, CDC, DHHS
National Institutes of Health, DHHS
National Marine Fisheries Service, NOAA, DOC

* *Ex-officio, National Nutrition Monitoring Advisory Council*
** *Invited*

BILLING CODE 4160-16-C

D. The National Nutrition Monitoring Advisory Council

The Act also stipulated the establishment of the National Nutrition Monitoring Advisory Council (NNMAC). The IBNMRR receives scientific and technical guidance from the NNMAC. The Council is composed of the co-chairpersons of the IBNMRR and 9 voting members with expertise in the areas of public health, nutrition monitoring research, and food production and distribution. Five members are appointed by the President based on recommendations by the Secretaries of DHHS and USDA and 4 are appointed by Congress. Appointments are to be renewed periodically as required by the Act. Technical and administrative support is provided jointly by co-executive secretaries from DHHS and USDA.

The Council will evaluate the scientific and technical quality of the comprehensive plan and the effectiveness of the coordinated program, and recommend areas for improvement of the program in annual reports to the Secretaries of DHHS and USDA.

III. Format of the Proposed Activities

The requirements of the plan encompass a broad range of activities needed to achieve the primary goal and objectives of a coordinated national nutrition monitoring program. Current activities planned between 1992 and 2002 are listed in appendix 3. Activities that complement and expand current NNMS activities are addressed in sections IV, V, and VI. Section IV describes the responsibilities and proposed activities of the IBNMRR. Section V consists of three cross-cutting objectives and describes the proposed activities within the five components of the NNMS. Some activities are cross-cutting and consequently will appear in more than one component to assure comprehensiveness and coordination. Section VI contains three objectives and discusses mechanisms to enhance State and local nutrition monitoring efforts and to facilitate coordination of these efforts with Federal activities. Section VII contains the calendars for the activities listed in sections IV, V, and VI.

For each proposed activity in sections V and VI, the Federal organizations responsible for the activity are alphabetically listed as "lead" or "collaborating". Determination of "lead" responsibility was made if the activity is part of the basic mission and/or the responsibility of an organization. "Lead organizations" are responsible for initiating collaboration and for defining appropriate mechanisms for continuation of collaboration. This collaboration refers to substantial participation in planning, conducting, and evaluating the activity. The listed activities are necessary to achieve a coordinated nutrition monitoring program and a comprehensive system. They imply a level of activity beyond the current levels.

In addition the overall plan emphasizes improving the information about selected population subgroups and effective exchange with data users (sections V and VI). Expansion of information on the dietary and nutritional status of specific subgroups in the population is an important part of the goal of creating a comprehensive nutrition monitoring system. Many of the surveys in the NNMS collect data on various subgroups of the population such as low-income groups. However, data are limited or inadequate for some groups, including institutionalized persons. American Indians living on reservations, migrant workers, the homeless, elderly persons, pregnant and lactating women, infants, and preschool and school-aged children. Because issues related to these groups cut across NNMS components, population subgroup issues are included in each relevant section.

Although the monitoring system is limited for coverage of some population subgroups, the current surveys and surveillance systems of the NNMRR program are an underutilized national resource. Many academics, health professionals, and local government officials are not aware of the type and magnitude of health and nutrition surveillance data available to them through the NNMRR program. More aggressive methods are needed to promote and disseminate survey data. In addition to preparing, promoting, and distributing survey reports and data tapes, efforts should be directed to instructing users on how to access and process data appropriately via the provision of documentation materials, training manuals, clearinghouses and data user conferences. Input from NNMS data users is also important in order to keep the system flexible for meeting a variety of needs.

IV. Activities of the Interagency Board for Nutrition Monitoring and Related Research (IBNMRR)

The IBNMRR serves as the central coordination point for the National Nutrition Monitoring and Related Research Program (NNMRRP) for the Federal government. Members of the Board are responsible for representing their agencies in all areas of nutrition monitoring. Board products and activities are completed by appointed working groups and designated staff support from member agencies.

The activities below identify the major mechanisms the Board will employ for coordinating the NNMRRP. The required activities of the IBNMRR as defined by Public Law 101-445 are listed first and followed by proposed Board activities. Section VII contains the calendar of required activities (table VII-1) and the calendar of proposed activities (table VII-2) for the IBNMRR.

Pub. L. 101-445 Required Activities of the IBNMRR

- Meet on a quarterly basis for the 2-year period following enactment of the Act, and as appropriate thereafter.
- Coordinate the preparation of the annual budget report on nutrition monitoring to the President for transmittal to Congress.
- Coordinate the preparation of the biennial reports on progress of the coordinated program and policy implications of scientific findings to the President for transmittal to Congress. This report includes the annual report of the NNMAC.
- Coordinate the preparation of the periodic scientific reports that describe the nutritional and related health status of the population to Congress.

Proposed Activities of the IBNMRR

- Review biennially the IBNMRR membership and representation to be responsive to the Act and the 10-year plan.
- Establish working groups to address topics of special interest and/or high priority. Currently, there are 3 IBNMRR working groups (Survey Comparability, Food Composition Data, and Federal-State Relations and Information Dissemination and Exchange) which hold regular meetings that provide the framework for increased communication and collaboration among the member agencies.
- Coordinate the update and publication of Nutrition Monitoring in the United States: The Directory of Federal Nutrition Monitoring Activities every 3 years, expanding to include sources of non-Federal data.
- Coordinate and publish a chartbook that updates and provides data and information from the NNMS intermediate to publication of the scientific reports.
- Establish a central clearinghouse for nutrition monitoring and related research funded by all Federal agencies participating in the IBNMRR. The

clearinghouse would house copies of survey and surveillance questionnaires, data collection instruments, published information and related research articles. In addition, this clearinghouse has the potential to contain information on State and nongovernmental nutrition monitoring data and activities.

• Develop a set of procedures to solicit input regarding the NNMS and the comprehensive plan from State and local governments, the private sector, public interest groups, health care professionals and scientific communities to revise and update the comprehensive plan.

• Evaluate the progress in accomplishing the activities of the 10-year comprehensive plan and report the findings and recommendations to coincide with the midpoint and endpoint of the plan.

• Respond to recommendations of the NNMAC regarding the enhancement of the comprehensive plan and coordinated program.

• Identify a mechanism for independent review and evaluation of the purposes, uses, and capabilities of surveys in the NNMS to meet intended objectives.

V. National Objectives and Activities

Numerous activities are proposed in this 10-year plan in order to achieve the overall goal of a comprehensive National Nutrition Monitoring and Related Research Program. Three overall national objectives have been identified that are critical to the success of the overall goal:

• Provide for a comprehensive NNMS through continuous and coordinated data collection;

• Improve the comparability and quality of data across the NNMS; and

• Broaden the research base for nutrition monitoring.

These objectives are consistent with and expand upon the goals delineated in the 1981 Joint Implementation Plan (20) and the 1987 Operational Plan (6), and are applicable to each of the five component areas of the NNMS. In this section, the proposed activities are described by component area within each of these overall objectives.

Objective V-A. Provide for a Comprehensive NNMS Through Continuous and Coordinated Data Collection

The establishment of a focused, comprehensive national program for nutrition monitoring and related research involves more than just coordinating current activities in the 5 NNMS components. It includes improvement of methodologies for the collection and interpretation of data, timely processing and release of data, expanding coverage of population subgroups, and addressing current nutrition issues. Continuous collection of data in cross-sectional and longitudinal surveys and surveillance systems within the NNMS is needed to evaluate and monitor the contribution that diet and nutritional status make to the health of the population. In addition, the expansion and coordination of assessments of knowledge, attitudes and behavior, food composition, and the food supply is critical for an effective NNMS.

Specifically, there needs to be increased coordination between NHANES and NFCS/CSFII. Several activities detailed in this 10-year plan address this need. Areas that will be addressed include, but are not limited to, the following:

• Timing of the next NHANES and NFCS/CSFII for the general population and for selected subgroups of the population to assure adequate coverage of monitoring the dietary status of the population (activities V-A-1.3, V-A-2.1, and V-A-2.3).

• Sampling plans for the next surveys to identify the general population and population subgroups (activity V-A-2.1) and defining key population descriptors to be measured across surveys in a comparable manner (activities V-A-2.1, V-B-2.1, and V-B-2.2).

• Methods used for dietary intake assessment (activities V-B-2.2, V-B-2.3, and V-B-4.2).

• Uniform reporting guidelines in the publication of survey findings, survey operations, and response rates (activities V-A-2.1 and V-B-2.4).

• Exploration of the development of a joint sampling design between NHANES and NFCS/CSFII (activities V-A-2.1, V-C-1.1, and V-C-2.3).

• Establishment of a mechanism to combine data from NHANES and NFCS/CSFII into a single estimation model (activity V-A-2.1).

1. Nutrition and Related Health Measurements

Nutrition and related health data have a wide variety of policy, research, health and nutrition education, medical care practices, and reference standards applications. These data have been used to establish baseline data for the 1990 and 2000 health and nutrition objectives for the nation (9-10) and to estimate the prevalence of nutrition and related health conditions in the population.

The NHANES, conducted by DHHS/CDC/NCHS, measures nutritional status, including dietary intake, and health, and thus is the cornerstone of this NNMS component. A number of other surveys and surveillance system primarily conducted by DHHS/CDC, also contribute nutrition-related healt information, particularly for pregnant women, infants, and children. The National Health Interview Survey (NHIS) collects information about self reported health conditions annually a about special nutrition and health topi periodically. The NHIS has recently been redesigned to produce improved estimates for minority groups in the population.

Nutrition and related health information from these and other surveys and surveillance systems provide data to define midcourse progress toward the Year 2000 nutritio and related health objectives. The continuous collection of these data are required for generating reference distributions and for monitoring trends over time.

Proposed Activities

V-A-1.1

Coordinate the planning for coverage tracking, and reporting of findings from surveys and surveillance systems that collect nutrition and related health dat in the NNMS to monitor the Year 2000 nutrition and nutrition-related health objectives; coordinate the development of standardized nutrition and related health indicators with those establishe for the Year 2000 objectives, as appropriate.

Lead organization: CDC/NCHS.

Collaborating organizations: CDC/NCCDPHP, FDA, HNIS, HRSA, IHS, NIH, ODPHP.

V-A-1.2

Determine and prioritize which subgroups of the U.S. population are at increased nutritional risk and determin if they need improved coverage throug the NNMS; and define the periodicity and scope of data collection efforts required for adequate coverage.

Lead organizations: CDC/NCHS, HNIS.

Collaborating orgonizations: CDC/NCCDPHP, FDA, FNS, HRSA, IHS, NIH

V-A-1.3

For those groups needing improved coverage, develop and implement a pla for increased coverage of subgroups of the population at nutritional risk into existing national nutrition monitoring surveys, or alternatively, for conducting special studies of selected subgroups.

Lead organizotions: CDC/NCHS, HNIS.

Colloborating organizations: CDC/NCCDPHP, FDA, FNS, HRSA, IHS, NIH

V-A-1.4

Establish a mechanism to incorporate current and planned assessments of nutrition and related health status collected from a wider variety of survey and surveillance activities into the NNMS' scientific report, every 5 years and intermediate reports such as a chartbook.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: IBNMRR.

V-A-1.5

Produce a revised directory every 3 years to describe current national nutrition monitoring surveys and activities, expanding to include new IBNMRR members' and States' activities.

Lead organization: CDC/NCHS.

Collaborating organizations: IBNMRR Federal-State Relations and Information Dissemination and Exchange Working Group, IBNMRR.

2. Food and Nutrient Consumption

Data from assessment of the food consumption and dietary status of the population provides information needed for making public policy and research decisions related to food fortification, food safety, food labeling, food production and marketing, military feeding systems, food assistance, public health, and nutrition education. The USDA's NFCS and its component—Continuing Surveys of Food Intakes by Individuals (CSFII), and DHHS' NHANES, the two cornerstone NNMS surveys, provide national estimates of food and nutrient intakes in the general U.S. population and subgroups. The NFCS and CSFII emphasize the food and nutrient intake of the general population and subgroups of the population as related to various socioeconomic factors. The household portion of the NFCS provides the only source of collective information on household food use, nutrient availability, and food expenditures. In NHANES, dietary intake is related to health status in the same individuals.

In addition to the cornerstone surveys, there are other surveys within the NNMS that provide valuable food and nutrient intake data. FDA's Vitamin/Mineral Supplement Intake Survey, incorporated into the 1986 National Health Interview Survey, provided estimates of the prevalence of supplement use and characteristics of users. FDA's Total Diet Study provides estimates of the intakes of nutritional elements and metals based on laboratory analyses of foods. DOD's periodic assessments of nutrient and food consumption of military populations are used to monitor and improve the effectiveness of nutritional initiatives for military food service and health promotion programs.

Proposed Activities

V-A-2.1

Coordinate the planning, conducting, and reporting of findings from NFCS/CSFII and NHANES to set the precedent for other surveys of dietary intake and food consumption for the general population and for selected subgroups of the population defined at increased nutritional risk. Joint planning includes timing, sample design, use of standardized key population descriptors and comparable methods, as appropriate.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: Federal users of data for each survey as defined by CDC/NCHS and HNIS.

V-A-2.2

Determine and prioritize which subgroups of the U.S. population are at increased risk for under- or over-consumption of nutrients and food components and determine if they need improved coverage through the NNMS; and define the periodicity and scope of data collection efforts required for adequate coverage.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organization: CDC/NCCDPHP.

V-A-2.3

For those groups needing improved coverage, develop and implement a plan for increased coverage of subgroups of the population at increased risk for under- and over-consumption of nutrients and food components into existing national nutrition monitoring surveys, or alternatively, for conducting special studies of selected subgroups.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: CDC/NCCDPHP, DOD, EPA, FDA, FNS, IHS, NIH.

V-A-2.4

Establish a mechanism to incorporate current and planned assessments of food and nutrient consumption data collected from a wider variety of surveys and surveillance activities (such as those from the military populations) into the NNMS' scientific report, every 5 years and intermediate reports such as a chartbook.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: IBNMRR.

3. Knowledge, Attitudes, and Behavior Assessments

National surveys that measure knowledge, attitudes, and behavior about diet and nutrition and how these relate to health were added to the NNMS only in the past decade. Consequently, less is known about the knowledge, attitudes, and behavior of the general population than is known about their food consumption and nutritional status. Collection of national data on a continuous basis on awareness of diet and health relationships, knowledge and attitudes toward dietary guidance, and food safety, along with dietary behavior, food choices, and health status is needed.

In general, the Health and Diet Surveys conducted by FDA focus on people's awareness of relationships between diet and risk for chronic disease and on health-related knowledge and attitudes. The Diet and Health Knowledge Survey initiated by USDA in 1989 focuses on the relationship of people's attitudes and knowledge about dietary guidance and food safety to their food choices and nutrient intakes. The Behavioral Risk Factor Surveillance System initiated by DHHS/CDC in 1981 focuses on personal behavior and its relationship to nutritional and health status. Other surveys in this area are conducted by State and local agencies and by private industry.

Coordinated collection of dietary and health knowledge and attitudes would help avoid duplication of efforts, to identify and prioritize monitoring needs, and to strengthen linkages between national surveys and programs that use these data for program planning and evaluation purposes. The results of these surveys are used to plan national strategies for encouraging and assisting people to adopt healthy eating patterns.

Proposed Activities

V-A-3.1

Establish and institute a mechanism for improved coordination among Federal agencies that collect and use survey information about knowledge, attitudes, and behavior to assess gaps and duplications in existing surveys.

Lead organizations: FDA, HNIS, NIH.

Collaborating organizations: CDC/NCCDPHP, CDC/NCHS, DOD, FSIS, HRSA.

V-A-3.2

Prepare reports on knowledge, attitudes, and behavior using available NNMS data for the Dietary Guidelines

Advisory Committee to use for the 1995 and 2000 revision of the Dietary Guidelines for Americans.

Lead organizations: FDA, HNIS, NIH.

Collaborating organizations: CDC/NCCDPHP, CDC/NCHS, ODPHP.

V-A-3.3

Expand surveys of knowledge, attitudes, and behavior to provide better coverage of subgroups of the population at increased nutritional risk and relevant topics.

Lead organizations: CDC/NCCDPHP, FDA, HNIS, NIH.

Collaborating organization: CDC/NCHS.

4. Food Composition and Nutrient Data Bases

The USDA operates the National Nutrient Data Bank (NNDB) for the purpose of deriving representative nutrient values for foods consumed in the U.S. Values from the NNDB are released in Agriculture Handbook No. 8, "Composition of Foods • • • Raw, Processed, Prepared," and as part of the USDA Nutrient Data Base for Standard Reference. These values are used, in turn, as the core of most nutrient data bases developed in the U.S. for special purposes, such as those used in the commercially available dietary analysis programs.

The USDA produces the Survey Nutrient Data Base from the NNDB for analysis of nationwide dietary intake surveys. The Survey Nutrient Data Base contains data for 28 food components and energy for each included food item. A system is in place at USDA to periodically update this Nutrient Data Base with the most current information available from the NNDB. A continuous goal for the Survey Nutrient Data Base is its expansion and improvement to achieve adequate representation of foods and nutrients for nutrition monitoring purposes. Currently, only a limited number of the foods within the NNDB and the Survey Nutrient Data Base have separate entries by brands. A review of the need for more descriptive specificity, including brand name information, needs to be based on the uses of the data.

FDA's Total Diet Study provides information on the levels of various nutritional elements and organic and elemental contaminants in the U.S. food supply. Foods are core foods in the U.S. food supply based on consumption data from NFCS and NHANES. Foods are collected from retail markets, prepared for consumption, and analyzed individually for nutrients and other food components at the Total Diet Laboratory.

Food composition data bases must evolve and change continually to respond to the changing food supply and changing public health issues. Additional data may need to be incorporated to strengthen the existing data base, or values may become obsolete as measurement systems are improved or as foods change over time. Food composition values need to be continually evaluated and periodically updated.

Proposed Activities

V-A-4.1

Evaluate the specificity of food items on the current Survey Nutrient Data Base, in terms of known long-range needs for nutrition monitoring purposes for not only the general population but also ethnic subgroups, and update food types where current level of specificity is inadequate.

Lead organizations: ARS, CDC/NCHS, HNIS.

Collaborating organizations: FDA, FNS, NMFS.

V-A-4.2

Develop and implement a plan for prioritizing and adding components to the Survey Nutrient Data Base including nutrient components and non-nutrient food components.

Lead organizations: ARS, CDC/NCHS, HNIS.

Collaborating organizations: CSRS, EPA, FDA, FNS, NIH.

V-A-4.3

Establish a government-industry task force or other mechanism to increase voluntary contribution of food composition information by food industry and to encourage the use of standardized food composition measurements by food industry to facilitate the use of their data for nutrition monitoring purposes.

Lead organization: HNIS.

Collaborating organizations: ARS, FDA, FSIS, NMFS.

V-A-4.4

Evaluate the effectiveness of criteria used for verifying and updating food composition values over time and revise as appropriate. Verification of values should include evaluation of food recipes or formulas that may be used to generate the values.

Lead organization: HNIS.

Collaborating organizations: CDC/NCHS, FDA.

V-A-4.5

Develop, implement, and maintain procedures for tracking changes to the food composition and nutrient data bases that will permit trend analys dietary intake data.

Lead organizations: CDC/NCHS HNIS.

Collaborating organizations: IBN Working Group on Food Composit Data.

V-A-4.6

Determine the extent of documentation needed by users to improve interpretation of food component intake data derived fro survey nutrient and food coding da bases, and establish procedures to provide the information to users.

Lead organization: HNIS.

Collaborating organizations: CD NCHS, FDA, FNS.

V-A-4.7

Develop and implement a plan f establishing and maintaining a nutritional supplements data base

Lead organizations: CDC/NCHS FDA, HNIS.

5. Food Supply Determinations

Since the beginning of this centu U.S. food supply estimates have indicated levels of foods and nutri available for consumption. Thus, changes in the American diet can e evaluated from an historical perspective. These data can also b used to assess the potential of the food supply to meet the nutritiona needs of the population and may u useful in epidemiological studies. the dissemination of food supply estimates has not been as widesp as data from other components o monitoring system. Awareness o data, their potential uses and lim need to be increased. Emphasis n placed on documentation, interpr and usefulness of the data for me the needs of researchers, policym program managers, health profes and the media.

Primary information used in calculating food supplies comes f variety of governmental and priv sources. Since 1981, data losses regarding commercial productio fresh and processed fruits and vegetables pose a serious proble estimating per capita disappeara produce. Other significant data b include estimates of stocks and commodity disposition, for exam seeds. Information on cereals an bakery products has always bee sparse, the principal source bein rather spotty coverage in the quinquennial Census of Manufa Thus, identification of alternativ sources and improved collection

rom current sources is needed to evelop food disappearance estimates.

roposed Activities

'-A-5.1

Develop and implement a strategy to ıcrease awareness, understanding, and se of food supply data with emphasis n interpretation and documentation for olicy applications.
Lead organization: HNIS.
Collaborating organization: ERS.

-A-5.2

Reevaluate methods for obtaining ommodity disappearance data eriodically for appropriateness, and if dicated, devise new or modified ocedures to improve accuracy or fill ıta voids, using alternative data urces.
Lead organization: ERS.
Collaborating organizations: HNIS, MFS.

-A-5.3

Seek industry cooperation to improve e accuracy of food supply terminations, including reinstatement pack data for many processed fruit d vegetable products.
Lead organization: ERS.
Collaborating organizations: AMS, IIS, NMFS.

jective V-B. Improve the mparability and Quality of Data ross the NNMS

An integral part of the coordination of rition monitoring activities is the use standardized or comparable thodologies for the collection, quality ntrol, analysis, and reporting of data. rtain basic criteria for sampling igns would allow the ability to ıpare, link, and combine data ween surveys. Comparability would be enhanced by the identification use of standardized questions or ısurement methods for selected key ulation descriptors and indicators of ritional and health status. For mple, any NNMS survey that collects rmation on the use of vitamin/ eral supplements should include a mmended minimum set of olement usage questions. This imum set could be augmented by r questions dependent upon the ey's data needs and objectives. ıe IBNMRR Working Group on ey Comparability has begun the ess of documenting similarities and erences for selected key population riptors and nutrition-related health ables across NNMS surveys. This vity is the first step in providing mmendations about the common e, definitions, and reporting of key survey variables, including race, ethnicity, education, income, and self-reported height and weight.

In addition, a recent report entitled Sampling Designs and Population Descriptors of Nationwide Food Consumption Surveys and National Health and Nutrition Examination Surveys (5), completed under contract with the Research Triangle Institute, examined the comparability of sampling designs and selected population descriptors in the two cornerstone NNMS surveys. The report recommended options for increasing comparability between the two surveys.

1. Nutrition and Related Health Measurements

Although many of the surveys in the NNMS include nutrition and related health indicators, there is no standardized set of questions, assessments, and procedures that have been agreed upon or used across surveys to measure nutrition and related health status. Without common definitions, the comparison of nutritional and related health findings among different surveys is limited.

Recently, an expert panel convened by LSRO/FASEB identified "Core indicators of nutritional state for difficult-to-sample populations" (23). This report developed a conceptual model but did not describe specific methods, questions or indicators for nutritional status assessment. Further work is needed to review the applicability of this model to the general population and to identify the specific assessments that constitute a minimum set of indicators to measure nutritional status.

Proposed Activities

V-B-1.1

Establish a consensus and publish a set of key standardized indicators "by nutritional issue" to be included as a part of several types of NNMS surveys that collect nutrition and related health data, and implement recommendations in appropriate surveys.
Lead organizations: ARS, CDC/NCHS, NIH.
Collaborating organizations: CDC/NCCDPHP, CDC/NCEHIC, HNIS, HRSA, IHS.

V-B-1.2

Identify the most appropriate laboratory methodologies for key nutritional biochemistry indicators and publish the results as a reference document to provide comparability and quality with national data.
Lead organizations: ARS, CDC/NCEHIC, NIH.
Collaborating organizations: CDC/NCCDPHP, CDC/NCHS, CSRS, HRSA.

2. Food and Nutrient Consumption

Given the scope of food consumption issues that need to be addressed by the NNMS, no one survey can provide all the necessary information to comprehensively address the system needs while at the same time meeting agency-specific needs. An effective system for monitoring food consumption and dietary status should include information from several surveys. For example, household food use and individual food intake data are needed by groups such as the agricultural, educational, and public health communities. Agricultural groups use these data to assess the impact of changing food intake on food production and marketing. Educational groups use these data in developing effective nutrition education programs, and public health communities use these data to target groups for nutrition and health intervention programs.

Various methodologies for the collection of food and nutrient consumption are used in several NNMS surveys. Selection of the type of dietary method is dependent upon several factors, including the survey's objectives and needs, intended uses of the data, the study population, and operational procedures. An advantage of having several surveys that collect dietary intake or food consumption data is the ability to link or compare data for various groups within the population by characteristics such as age, sex, income, race, ethnicity, and other sociodemographic variables. Data users can then have access to dietary intake data for various subgroups of the population and compare or link findings across surveys. This linkage will be improved as the data collection methodologies for measuring dietary intake, coding, and analysis become more comparable. Calibration between dietary methods is also needed to improve the usefulness and interpretation of the data derived from various dietary methods.

Proposed Activities

V-B-2.1

Establish a consensus and publish a set of key food consumption and food assistance program participation questions to be included as a part of several types of NNMS surveys that collect data on the food and nutrient intake of individuals or household food consumption, and implement

recommendations in appropriate surveys.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: Census Bureau, CDC/NCCDPHP, DOD, EPA, ES, FDA FNS, HRSA, NIH, NMFS.

V–B–2.2

Review the recommendations in the report by the Research Triangle Institute (5) for improving the comparability of sample design and population descriptors in the next NHANES and NFCS/CSFII and implement appropriate recommendations in the next surveys. This includes exploration of a joint sampling design to facilitate linked analysis of data.

Lead organizations: CDC/NCHS, HNIS.

V–B–2.3

Identify ways to increase comparability within a dietary method such as the 24-hour recall, food record or food frequency, to improve the quality and usefulness of data; and implement recommended changes including food coding, probing techniques, proxy-reporting, and portion size estimation in order to standardize data collection by method.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organization: CDC/NCCDPHP.

V–B–2.4

Develop a consensus for the standardized reporting of dietary intake measures and survey response rates to set the precedent for other surveys.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organizations: ARS, CDC/NCCDPHP, CSRS, DOD, NIH, IHS.

3. Knowledge, Attitudes, and Behavior Assessments

An effective NNMS system will be able to link surveys collecting data on knowledge, attitudes, and behavior and surveys gathering information on dietary intake and food consumption. Where appropriate, there is a definite need to standardize the questions and methods used to assess the population's dietary and related knowledge, attitudes, and behavior. Questionnaires and indicators need to be evaluated to ensure they are valid and reliable estimators of knowledge, attitudes, and behavior held by the general population and selected subgroups.

Proposed Activities

V–B–3.1

Identify and incorporate a set of key knowledge, attitudes, and behavior questions and measurements among the NNMS surveys.

Lead organizations: CDC/NCCDPHP, FDA, HNIS, NIH.

Collaborating organizations: CDC/NCHS, CSRS, DOD, EPA, FSIS, HRSA.

V–B–3.2

Compile information on methods used to design and evaluate questionnaires used in Federal surveys of knowledge, attitudes, and behavior and prepare a report with recommendations for improving quality of test instruments.

Lead organizations: FDA, HNIS.

Collaborating organizations: CDC/NCCDPHP, CDC/NCHS, DOD, HRSA, NIH.

4. Food Composition and Nutrient Data Bases

The USDA Survey Nutrient Data Base is used by national surveys as well as other research studies and projects requiring nutrient analysis. Since 1982, HANES and NFCS have used the same nutrient data base for analysis and reporting of dietary intakes. However, differences related to how it is used may influence the comparability of the results. There is a need to identify differences in use among users of the Survey Nutrient Data Base and determine the impact on the estimates of dietary intake.

Proposed Activities

V–B–4.1

Document uses of food codes and the Survey Nutrient Data Base and evaluate their uses by CDC/NCHS and HNIS on the interpretation of national survey results.

Lead organizations: CDC/NCHS, HNIS.

V–B–4.2

Develop and publish coding guidelines regarding such issues as default amounts, missing and imputed foods, and brand name food items, for users of the Survey Nutrient Data Base to improve comparability of dietary intake data.

Lead organizations: CDC/NCHS, HNIS.

Objective V–C. Broaden the Research Base for Nutrition Monitoring

Research in various areas is needed before the proposed activities listed under Objectives V–A and V–B can be implemented. The conduct of research in the areas of survey design, questionnaire design, collection methods, laboratory methods, data processing, and data analysis is essential to support the NNMS. Research efforts should focus on identification and/or development methods and the utilization of cost technology which will enhance the monitoring of the nutritional status the U.S. population and support the timely interpretation and release information to users.

1. Nutrition and Related Health Measurements

To effectively study the relation among food, nutrition, and health present knowledge concerning the reliable and valid, as well as cost effective, measures of nutritional need to be improved. Research ne can be categorized into 3 areas:

(a) Appropriate methods (such questionnaires, interviewing proc and physical measures) for subgr increased nutritional risk;

(b) Practical and efficient meas biochemical and clinical paramet and

(c) Applied statistical methodol for the collection and interpretati NNMS data.

Proposed Activities

V–C–1.1

Conduct research on methods f survey sampling, design and data collection and measurement proc that permit reliable estimation of nutrition and related health indic for highrisk subgroups or geogra areas.

Lead organization: CDC/NCH

Collaborating organizations: A CDC/NCCDPHP, CSRS, FDA, FN HNIS, HRSA, IHS.

V–C–1.2

Develop criteria for interpretin selected nutrition and related he indicators for subgroups of the population such as infants and c pregnant women, and the elderly

Lead organizations: ARS, CDC NCCDPHP, CDC/NCHS, NIH.

Collaborating organizations: C NCEHIC, FDA, FNS, IHS.

V–C–1.3

Conduct research to develop, i and validate laboratory measure nutritional status and conduct st establish relationships between biochemical measures of nutritio status and recent and long-term intake.

Lead organizations: ARS, CDC/ CCDPHP, CDC/NCEHIC, CDC/NCHS, H.

Collaborating organizations: CSRS, OD, HRSA.

Food and Nutrient Consumption

There is a widely recognized need for engthening the scientific base for the lection and interpretation of food nsumption and dietary status asurements. Survey methodologies ed to be developed to increase the ormation about the relationship ween dietary patterns and chronic ease or health. Research falls into 2 ad categories:

a) Methodological research specific he conduct of surveys and the asurement of dietary status; and

b) Research that will improve the rpretation and usefulness of data to cymakers, health professionals, food ustry, media, and others in the rition community.

posed Activities

-2.1

nplement the recommendations of National Academy of Sciences 1986 rt (24) for assessing nutrient quacy by determining the ribution of nutrient requirements ng major age-sex groups and ducting research to estimate usual ient intake so that the proportion of opulation at risk for dietary equacy may be estimated.

ad organization: ARS.

llaborating organizations: CDC/ IS, CSRS, HNIS, NIH.

-2.2

velop and implement a procedure end analysis of nutrient intakes takes into account and adjusts for ovements that are made over time od composition data.

ad organizations: CDC/NCHS, .

-2.3

nduct research on methods for y sampling, design and data ction and measurement procedures ermit reliable estimation of dietary s indicators for high-risk subgroups ographic areas.

d organizations: CDC/NCHS,

llaborating organizations: CDC/ DPHP, NMFS.

2.4

commend a standardized anism and instrument for defining btaining data on the prevalence of insufficiency" in the U.S. and a methodology that can be used across the NNMS and at State and local levels.

Lead organizations: CDC/NCHS, FNS, HNIS.

Collaborating organizations: CDC/ NCCDPHP, CSRS, HRSA, ERS, ES.

V–C–2.5

Investigate the impact of food assistance and Federally supported food service programs on the food consumption patterns and dietary status of population groups and subgroups.

Lead organizations: FNS, DOD.

Collaborating organizations: CDC/ NCCDPHP, IHS.

V–C–2.6

Review methodologies for assessing data on household food consumption and the money value of food for the general population and revise methodologies as appropriate.

Lead organization: HNIS.

Collaborating organizations: BLS, Census Bureau, ERS, EPA, FNS, NMFS.

V–C–2.7

Investigate methods for accounting for the levels of nutritional supplement use by the population in dietary intake surveys.

Lead organizations: CDC/NCHS, HNIS.

Collaborating organization: FDA.

3. Knowledge, Attitudes, and Behavior Assessments

Knowledge, attitudes, and behavior have the capability of influencing willingness and ability to put dietary recommendations into practice. They are susceptible to change through appropriately targeted nutrition interventions. It is essential to understand the role that knowledge, attitudes, and behavior about dietary recommendations and diet-health relationships play in determining food choices, and ultimately nutrient intake and health status. This will aid in the development of public health strategies at Federal, State, and local levels to improve dietary status, promote health, and prevent nutrition-related disease.

Proposed Activities

V–C–3.1

Conduct research to identify the relationship of dietary knowledge and attitudes to food-related behavior, food and/or nutrient intake, health status, and cultural and self-care health practices to recommend changes in survey questionnaires and to examine theories of behavior change.

Lead organizations: FDA, HNIS, NIH.

Collaborating organizations: CDC/ NCHS, CSRS, DOD, HRSA.

V–C–3.2

Conduct research to determine consumer use and understanding of the nutrition information on food labels by the general population and selected subgroups of the population.

Lead organization: FDA.

Collaborating organizations: CSRS, FSIS, HNIS.

V–C–3.3

Conduct research to identify the relationship of knowledge and attitude parameters to dietary behavior and nutrient intake, which will contribute to a set of key knowledge, attitudes, and behavior questions.

Lead organization: HNIS.

Collaborating organizations: CDC/ NCCDPHP, CSRS, DOD, NIH.

V–C–3.4

Determine information needed on consumer knowledge, attitudes, and behavior about issues regarding food safety and labeling; then, modify existing surveys of knowledge, attitudes, and behavior, or develop a new survey if appropriate.

Lead organization: FDA.

Collaborating organizations: CDC/ NCCDPHP, CDC/NCHS, DOD, EPA, FSIS, HNIS, HRSA, NIH.

4. Food Composition and Nutrient Data Bases

Sources of analytical data for the NNDB include government laboratories, the food industry, the scientific literature, and private laboratories under contract with USDA. Even though the NNDB contains thousands of individual food composition values, gaps and deficiencies still exist for some foods, food components and specific nutrients. This will continue for the foreseeable future because of cost and the lack of reliable measurement systems for certain food components. Therefore, methods for developing food composition values other than analyses of large numbers of samples must be frequently used, such as using data for a limited number of samples, calculating values from other forms of a food, or using a recipe to calculate the nutrient profile of a food composed of several ingredients. These methods need to be evaluated to ensure their appropriate use, and a plan is needed to prioritize needs for development of measurement systems and generation of food composition data.

Proposed Activities

V–C–4.1

Evaluate the different approaches (e.g., chemical analyses, imputation, number of samples, and methods) used to produce nutrient values, and establish criteria for their use.

Lead organizations: ARS, FDA, HNIS.

Collaborating organizations: CDC/NCHS, CSRS.

V–C–4.2

Using criteria established in activity V–C–4.1, evaluate the current status of food composition data and develop and implement a plan for the generation of data where deficiencies exist.

Lead organizations: ARS, HNIS.

V–C–4.3

Develop field measurement systems and appropriate quality control materials for generation of reliable, accurate, and precise food composition data. Coordinate methods development and related activities among Federal government laboratories performing food composition analyses. Initiate process for new methods to receive "official methods" status by such organizations as Association of Official Analytical Chemists, American Association of Cereal Chemists, or American Oil Chemists Society.

Lead organizations: ARS, FDA.

Collaborating organization: FSIS.

5. Food Supply Determinations

Estimates of the nutrient content of the U.S. food supply include nutrients naturally present in about 350 primary, mostly unprocessed food commodities, as well as nutrients entering the food supply as additives through enrichment and fortification. Quantities of "added" nutrients have been based on six surveys of nutrient producers and importers conducted between 1946 and 1970. Many changes have occurred in the food supply since the last survey in 1970 including an increase in the number and levels of nutrients added in fortification as well as the number of foods which are enriched or fortified. New data are needed to maintain the accuracy of the food supply nutrient series. A review of potential data sources and the development of alternate methods of data collection are needed for determining nutrients added to the food supply for fortification as well as functional purposes.

Proposed Activities

V–C–5.1

Evaluate potential sources of information on nutrients added to the food supply for enrichment, fortification, and functional purposes and determine the most appropriate method to collect these data.

Lead organization: HNIS.

Collaborating organizations: ERS, FDA.

V–C–5.2

Plan and conduct research on nutrients added for enrichment, fortification, and functional purposes based on the most appropriate method as determined by activity V–C–5.1.

Lead organization: HNIS.

Collaborating organizations: ERS, FDA.

VI. State and Local Objectives and Activities

In order to create an effective and comprehensive NNMS, it is necessary to enhance State and local capacity to monitor nutritional status and dietary practices in a way that coordinates with and complements national nutrition surveys. In 1990, 40 States participated in the Pediatric Nutrition Surveillance System (PedNSS), 18 States participated in the Pregnancy Nutrition Surveillance System (PNSS) and 43 in the Behavioral Risk Factor Surveillance System (BRFSS). Also in 1990, nutrition components were added to the Youth Risk Behavior Survey (YRBS) and BRFSS to enable States to begin to look at nutrition-related issues in the school-aged and adult populations, respectively. These surveys and surveillances are coordinated by the National Center for Chronic Disease Prevention and Health Promotion (CDC/DHHS).

A major program emphasis within USDA's Cooperative Extension Service is nutrition, diet and health programs. These educational programs are conducted in 3150 counties in all States and territories reaching approximately 10–12 million people of all age groups and income levels. The Food and Nutrition Service, USDA, also initiates a variety of State and local programs that promote the importance of good nutrition and its relationship to health.

Continued support and expansion of State-based surveillance systems are needed to track State-based nutrition objectives (25) and to enhance program management. In addition, activities at State and local levels are needed to motivate changes in dietary practice to achieve the proposed nutrition objectives.

The Survey of State Nutrition Surveillance Efforts carried out in 1988 by the Association of State and Territorial Public Health Nutrition Directors (ASTPHND) indicated that 80% of States rated participation in nutrition monitoring as very impo or crucial. Major limitations to fu participation in nutrition monitor included insufficient professional limited funding, and non-automat data collection systems (26).

Objective VI–A: Develop and Str State and Local Capacity for Continuous and Coordinated Nut Monitoring Data Collection

State and local data are neede detect emerging nutrition issues, monitor trends in nutrition-relate health problems, to plan and eva nutrition interventions, to measu quality of nutrition services, and assess the effectiveness of food assistance and other programs. A States and localities strive to imp strategies and objectives compar the nutrition objectives in Health People 2000 (10) and Healthy Communities 2000: Model Standa (25), both baseline and continuin will be necessary to monitor loca progress.

The development of a State st to carry out nutrition monitoring needed. Staff should be trained i collection, analysis, and applica nutrition data. State laboratories be able to support State and loc monitoring efforts which should feasible and also compatible wi national efforts. State and local monitoring systems should also advantage of new technology fo electronic data transfer.

Proposed Activities

VI–A–1

Provide assistance for the development and maintenance structure, staff and programs fo nutrition monitoring.

Lead organization: CDC/NC

Collaborating organizations: NCEHIC, CDC/NCHS, CSRS, E HRSA.

VI–A–2

Expand the coverage of curre and local nutrition monitoring a in selected population groups t technical assistance and grant

Lead organization: CDC/NC

Collaborating organizations: NCEHIC, CDC/NCHS, CSRS, E HRSA.

VI–A–3

Develop and implement an a nutrition surveillance system f States and localities to monito based nutrition objectives as w target subgroups of the popula increased nutritional risk.

Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCEHIC, CDC/NCHS, CSRS, ES, FNS, HRSA.

VI–A–4

Develop and test the feasibility of a model school-based nutrition data collection system including height, weight and indicators of knowledge, attitudes and dietary practices in school-aged children.
Lead organizations: CDC/NCCDPHP, CDC/NCHS.
Collaborating organizations: DOE, FNS, HRSA, IHS.

VI–A–5

Develop and expand State and local laboratory capacity to support nutrition monitoring activities through technical assistance and grant awards.
Lead organizations: CDC/NCCDPHP, CDC/NCEHIC.
Collaborating organizations: CDC/NCHS, ARS.

Objective VI–B: Improve Methodologies To Enhance Comparability of NNMS Data Across Federal, State, and Local Levels

In order for States and localities to compare their nutrition and related health data, including food consumption, with that of other States and with national nutrition data, core indicators, standard methodologies, and interpretive criteria must be developed which are consistent across States and comparable to national nutrition surveys.

Proposed Activities

VI–B–1

As appropriate laboratory methodologies are identified for nutritional biochemistry indicators (activity V–B–1.2), periodically develop, publish, update, and disseminate manuals on model State laboratory programs.
Lead organizations: ARS, CDC/NCEHIC.
Collaborating organizations: STHPHLD, CDC/NCCDPHP, CDC/NCHS, HRSA.

VI–B–2

Develop statistical methodologies to create State and local estimates based on data from national nutrition surveys and disseminate these methodologies via computer software.
Lead organizations: CDC/NCHS, HNIS.
Collaborating organizations: CDC/NCCDPHP, ES, FNS.

VI–B–3

Develop methodologies and publish guidance materials to link and utilize existing State and local data sets such as vital records data, Medicaid program data, and nutrition program data for nutrition program management and evaluation.
Lead organizations: CDC/NCCDPHP, CDC/NCHS.
Collaborating organizations: ES, FNS, HRSA.

VI–B–4

Establish and implement practical mechanisms to utilize and link existing industry-based food purchasing data with consumption data for monitoring dietary changes at State and local levels.
Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCHS, FDA, HNIS, NIH, ODPHP.

Objective VI–C: Improve the Quality of State and Local Nutrition Monitoring Data

For continuance of data quality at the State and local levels, periodic training in the collection, analysis, and use of nutrition monitoring data will be important. Success in utilizing and disseminating State and local nutrition monitoring data will be key factors in assessing the usefulness of nutrition monitoring efforts. Periodic evaluation of State and local monitoring systems should be performed in order to assure that State and local needs are met.

Proposed Activities

VI–C–1

Provide technical assistance and training to State and local agencies on the collection, analysis and use of nutrition monitoring data.
Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCHS, CSRS, ES, HNIS, HRSA, IHS.

VI–C–2

Develop, publish, and disseminate a practitioner's guide and training programs targeted to advocates, local governments, Cooperative Extension Service (CES), and public health personnel on how to access and use available nutrition monitoring and surveillance data.
Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCHS, ES, HNIS, HRSA.

VI–C–3

Develop and carry out a training program to implement the model State laboratory program for nutrition monitoring.
Lead organizations: ARS, CDC/NCEHIC.
Collaborating organizations: CDC/NCCDPHP, CSRS.

VI–C–4

Develop a directory of the content and extent of nutrition monitoring activities at the State level and incorporate this directory into the updates of *Nutrition Monitoring in the United States: The Directory of Federal Nutrition Monitoring Activities.*
Lead organization: CDC/NCCDPHP.
Collaborating organizations: CDC/NCHS, ES, FNS, IBNMRR Federal-State Relations and Information Dissemination and Exchange Working Group.

VII. Calendar for Proposed IBNMRR, National, and State and Local Objectives and Activities

This section contains a calendar for the required and proposed activities of the IBNMRR (tables VII–1 and VII–2) and for proposed activities for each of the five component measurement areas (table VII–3 through VII–7), and for proposed activities for States and localities (table VII–8). The calendars are designed to provide an overview of when activities will be conducted and to address accountability and timeliness. A coding system was devised to indicate the stage of development for each activity. A "P" indicates that the planning steps essential prior to the initiation of an activity are being conducted; an "*" means the activity has been initiated, such as the awarding of a contract or the starting of a research project; an "X" represents a product, such as a publication, workshop or plan for work; and a continuous line or arrow (=) indicates that an activity is ongoing.

BILLING CODE 4160-18-M

U.S. INTERNATIONAL PROGRAMS TO IMPROVE NUTRITION

Summary: Through a wide range of public and private sector programs, the United States is contributing to improved nutrition in the developing world. From basic research to feeding programs, from nutrition education to growth monitoring, diverse activities and policies act directly and indirectly to reduce malnutrition. In Fiscal Year (FY) 1990, for example, the United States devoted over $110 million of its foreign aid budget to programs whose principal purposes included responding to Third World malnutrition.[1] Another nearly $6 billion of its foreign aid budget supported programs which ameliorated the problem, although not specifically designed to achieve nutritional objectives. And $1.73 billion in food aid was provided to developing countries.

The United States is committed to reducing malnutrition in the developing world, with special emphasis on the needs of women and young children, and to reducing food insecurity. It pursues this commitment through programs which address the underlying causes of food security and malnutrition, and others which directly impact on nutritional status. Basic poverty, which prevents families from producing or purchasing the amount and quality of food they need, is of course central to any assessment of the root causes of hunger and malnutrition. These underlying causes are addressed through programs in such sectors as agriculture, education, health, energy, industry, environment, and family planning. In addition, for more than forty years U.S. food aid programs have contributed to the reduction of hunger and malnutrition.

U.S. programs to improve nutrition in developing countries are carried out by a number of institutions, both public and private. Some institutions and agencies, such as the U.S. Agency for International Development (USAID), focus principally on developing country problems. Other domestically focused institutions, such as the US Department of Agriculture (USDA) and the U.S. Public Health Service (USPHS)[2] in the Department of Health and Human Services make their contribution through broad-based research, as well as through technical collaboration and training activities with both developing and developed countries. The American

---

[1]The FY 1990 funding levels are calculated from the Activity Code/Special Interest System (AC/SI) maintained by A.I.D.'s Bureau for Policy (POL) and include funds appropriated for Development Assistance, the Development Fund for Africa, the Economic Support Fund and Special Assistance Initiatives.

[2]The USPHS includes the Food and Drug Administration (FDA), the Centers for Disease Control (CDC) and the National Institutes of Health (NIH).

private sector, including private voluntary organizations (PVOs), universities, foundations and business, contributes substantial human and financial resources to programs which attack the short and long term causes of malnutrition. In addition, U.S. universities and PVOs are often the source of technical assistance and training sponsored by U.S. Government agencies, and serve as collaborators in international nutrition research with host country institutions.

The United States also helps meet food and other related needs created by natural and man-made disasters. U.S. disaster assistance includes emergency food shipments, provision of water purification units and other commodities. In addition, the United States contributes food and other resources to assist refugee populations, and supports the relief efforts of the UNHCR. Again, the American private voluntary community plays a vital role in responding to hunger needs arising from disasters.

U.S. Goals and Strategy to Improve Nutrition in Developing Countries

The United States places a high priority on increasing food production, food availability, individual food consumption and nutrition in developing countries. It advances this priority through activities designed directly to improve nutritional status among high risk and disadvantaged populations; through targeted feeding programs, e.g., maternal, pre-school and school feeding programs; through programs conducted in agriculture, education, health, population, and other sectors which affect the underlying causes of malnutrition; through research activities that address major nutritional concerns and provide a basis for nutrition policy formulation in developing countries; through disaster relief and emergency feeding activities which address immediate threats to adequate consumption; and through program food aid. These activities are carried out by both governmental and private institutions.

USAID programs make up a major part of U.S. efforts to improve nutrition in developing countries. Because malnutrition is most prevalent in lower income households and communities, USAID places special emphasis on them and, in particular, women of reproductive age and children. Many of USAID's programs are directed towards reducing food insecurity by increasing access to and availability of food, and improving the nutritional quality of foods consumed by individuals in these households and communities.

Key components of USAID's nutritional strategy, programs and projects include:

- Efforts to sensitize policy-makers to address nutritional issues and formulate policies which will allow achievement of development goals which otherwise might not succeed.

o Integrating nutrition concerns into agricultural, education, health and other development sector programs.

o Development of technologies, techniques and approaches to deal with specific nutritional concerns in a sustainable and cost-effective manner. The means to accomplish this include:

- conducting research likely to enhance the knowledge base and performance in nutrition and related fields.

- strengthening institutions and improving nutrition-trained personnel.

- providing community-based assistance for nutrition activities which benefit women of child-bearing age, infants and families.

- improving nutrition-related behaviors through ethnographic research and social marketing.

- increasing engagement of the international and national private sector in addressing critical nutrition needs of vulnerable groups.

o Improving food security by increasing availability of and access to food.

o Strengthening the capacity of family units to care for their members, and to participate in the economic and political life of their community and country.

Direct Impact Programs and Projects.

USAID is the agency of the U.S. Government principally involved in providing direct support for nutrition improvement programs in developing countries, working frequently in close collaboration with other agencies in providing nutrition-focussed technical assistance and training, and sponsoring collaborative research programs. In its **direct nutrition programs,** USAID devoted nearly $40.0 million in FY 1990 for growth monitoring, breast feeding, promotion of weaning foods, nutrition management, planning and policy, research and field support with respect to vitamin A, iron deficiency anemia, and improving the nutritional status of adolescent girls and women of reproductive age. An additional $71.0 million was spent on nutrition-focussed activities in other development sectors which contribute importantly to achieving nutrition and food security objectives. Such programs are carried out in close collaboration with U.S. universities, private voluntary and other non-profit organizations, and

industry.[3]

USAID's nutrition-focussed programs are a mix of efforts to generate new knowledge and technologies, and strengthening the capacities of developing country institutions and people to address nutritional needs. They include elements of applied and operations research, technical assistance, training, and dissemination of informational materials. Their principal purpose is to improve nutritional status in developing countries. Examples of USAID activities include the following:

- **Women's and Infant's Nutrition** - This program provides an integrated package of appropriate feeding services and technical assistance in formulating sustainable activities to improve infant and young child nutrition. It also seeks to develop new approaches to improve the nutrition of adolescent girls and reproductive-aged women. Activities include: operations research, especially on the nutritional needs of adolescent and reproductive-aged women; technical assistance, particularly in establishing national programs to address the nutritional needs of children from birth to age three; training, primarily in lactation management; and information dissemination through a global clearinghouse on women's and children's nutrition.

  The program has four principal sub-components:

  1. **Wellstart** provides lactation management education for teams of nutrition and health professionals in teaching hospitals and government agencies. In addition to promoting hospital practices that support breastfeeding, participants serve as in-country trainers and lactation specialists and design lactation management education programs in their own countries. Over four hundred health professionals from 30 countries and 75 teaching hospitals have attended the Wellstart Program.

---

[3] Example include (1) an agricultural development programs in Nepal, where communities of small farmers are increasing production of cereals, horticulture and cash crops, and upgrading forestry management, in ways that will contribute to sustained increased in household food consumption; and (2) the Beans and Cowpeas Collaborative Research Support Program, a research and training effort to increase bean and cowpea production and use in Africa, Latin America and the Caribbean.

2. The **Women and Infant Nutrition Support (WINS)** Project seeks to improve infant feeding practices and reduce malnutrition in women and young children. The WINS sub-component addresses the continuum of nutritional needs from birth through three years of age, i.e., the period of exclusive breast-feeding and the transition to the family diet. WINS also concentrates on meeting the nutritional needs of women before and during pregnancy and lactation, and supporting women and families to meet the nutritional needs of their children.

3. The International Center for Research on Women (ICRW) manages the **Adolescent Girls Nutrition Research Program.** The focus of the research is on lifestyle, biological, cultural and psychological factors that affect nutritional status. The research identifies factors that contribute to the success or failure of programs to reach adolescent girls as well as girls' roles in the household and the community.

4. The American Public Health Association (APHA) **Clearinghouse on Infant Feeding and Maternal Nutrition** serves as an international center for nutrition information. Its goal is to improve developing country health practitioners' access to information.

- **Maternal and Neonatal Health and Nutrition (MOTHERCARE) -** MOTHERCARE is designed to improve pregnancy outcomes by strengthening and increasing the utilization of services and influencing behaviors that affect the health and nutritional status of mothers and their newborn infants.

- **Nutrition Education and Social Marketing Field Support -** For the past decade USAID programs in communication to change nutrition behavior have stimulated nutrition education programs of many organizations. This initiative continues to assist USAID missions, host country institutions, private voluntary organizations and other organizations to design, evaluate and disseminate nutrition messages using a range of methods, from face-to-face encounters to popular mass media. USAID provides technical assistance and training in assessing nutrition communication needs. In collaboration with host country institutions, USAID helps in selecting nutrition communication priorities, conducting operational and ethnographic research on these priorities, designing and

implementing promotional campaigns and training programs, and in selecting media and preparing relevant messages. During the past three years it has aided the development of nutrition strategies in Burkina Faso, Honduras, Mali, Niger and Peru.

- **Micro-Nutrient Initiatives -** USAID has been active in the field of micro-nutrients particularly in addressing vitamin A and iron deficiencies, including research and interventions in assessment, supplementation, fortification, and diet behavioral change. While vitamin A and iron initiatives have been emphasized, there is increasing interest and attention to other micronutrient needs.

With respect to blended and fortified food aid commodities, USAID has substantially increased the level of vitamin A. With the cooperation and support of the USDA's Agricultural Stabilization and Conservation Service, USAID is conducting quality assurance tests in anticipation of doubling the level of iron fortification, and is researching the practicality of increasing vitamin C levels in blended and fortified commodities.

The main vitamin A and iron programs are described below:

Vitamin A Nutrition - PVOs and host country governments are assisted in assessing the Vitamin A status of populations, determining intervention needs, and implementing and evaluating programs for the prevention of nutritional blindness and associated morbidity and mortality due to vitamin A deficiency. USAID's activity is a coordinated program of operations research, training and technical assistance on vitamin A deficiency. This includes refinement of assessment techniques and implementation of programs, including the distribution of supplemental vitamin A, dietary interventions such as food fortification, as well as gardening and horticulture. Much of the work takes place through or with PVO collaboration. The **Vitamin A Field Support Activity (VITAL)** works with host country counterparts and field missions to assess vitamin A deficiencies and develop central programs. USAID has also supported the **International Vitamin A Consultative Group (IVACG)** which provides information, coordination and guidance in vitamin A activities worldwide.

Operations research in Indonesia, Nepal, and Sudan has promoted better understanding of the relationship between vitamin A deficiency and childhood morbidity and mortality. Indeed, U.S. supported field research has shown that improved vitamin A status can substantially reduce childhood mortality. The distribution of variable dose vitamin A

supplements has taken place in Haiti, Indonesia, Niger, Bolivia and Malawi. Sugar fortification with vitamin A has been effected in Guatemala. Gardening and horticulture training and operations research have continued in Guatemala and Niger in the search for sustainable sources of vitamin A rich foods.

- **Combatting Iron Deficiency Anemia -** USAID has helped reduce the effects of iron deficiency anemia by providing technical advice and assistance to developing country private and public organizations, as well as other donors. A strong research and development component has focussed on developing new diagnostic techniques and iron supplementation and fortification methodologies. USAID has also supported the **International Nutritional Anemia Consultative Group (INACG)** which provides coordination and information on iron deficiency anemia.

- **Food Technology and Enterprise for Development -** The objective of this intervention is to improve food processing and marketing technologies in order to increase the quantity, nutritional quality, safety and affordability of foods consumed by malnourished poor women and children. Both long-and short-term technical advice from experts in various food processing fields will assist developing countries in achieving enhanced food quality. A project sub-component, **Sharing U.S. Technology to Aid in the Improvement of Nutrition (SUSTAIN),** has been providing short-term voluntary consultant services from USAID food processing industry experts for more than three decades. Along with its training and workshops, it has served over 1,200 recipients in 50 countries.

- **Functional Implications of Marginal Malnutrition - Collaborative Research Support Program (CRSP).** For more than a decade, this research effort examined the proposition that food intake is causally related to human biological and behavioral performance. It has generated a rich food-nutrition data set and new knowledge about malnutrition in Egypt, Kenya and Mexico. For example, it has provided insights into how the amount of food (marginal intakes) affects growth and body size. As researchers continue to analyze the materials developed, they further an understanding of how dietary quality influences school performance, mental and motor development, human milk production, and work performance. Improved methodologies for assessing households at risk of malnutrition and a set of indicators for designing highly focused nutrition interventions to improve diet quality and human performance have also been an outgrowth of this research effort.

- **Food Security and Nutrition Monitoring (IMPACT).** Building capacity in developing countries to acquire and use information to improve nutrition and food security is the focus of this activity. Its principal purpose is to ensure that development policies and programs reflect an informed appreciation of their linkages to and impacts on food security and nutritional status. IMPACT provides technical assistance and training to:

  - develop systems to assess the impact of development programs and policies, including food aid programs;

  - aid in the design of projects in diverse sectors to maximize the positive impacts on food consumption and nutrition;

  - design timely and economical monitoring systems to reveal nutritionally at-risk groups;

  - develop host country capacity to maintain such information systems over time.

  In addition, this initiative carries out a number of operations research activities to generate new knowledge on the impacts of development programs and policies on food security and nutritional status, on cost-effective and reliable alternative indicators of nutritional status, and on the characteristics of effective monitoring and surveillance systems.

- **Latin America and Caribbean Health and Nutrition Sustainability -** This technical services activity supports USAID's Latin American and Caribbean Bureau and field missions' efforts to develop, monitor and evaluate projects in health management, financing and nutrition. Services include technical assistance, special studies and sectoral analyses, workshops, operations research and information exchange. A recent report, "Current Trends in Food and Nutrition in the LAC Region," examined priorities and opportunities for improving nutrition programming in the region.

- Through its field missions USAID also works directly with developing countries in multi-year activities to improve nutrition. One recent example is the **Integrated Child Development Services Project (ICDS)** in India. ICDS is an Indian Government program that provides a comprehensive package of services for children and pregnant and nursing women in order to reduce malnutrition and mortality. USAID assistance, in which a PVO played a vital role,

included the provision of food aid, technical assistance and training in nutrition/health education and health management information systems, and research and development activities. The program has produced substantial improvements in the survival, health and nutritional status of women and children.

- **Food Security Program** - Other USAID efforts focus on increasing food security, in order to ensure reliable access to available and adequate supplies of food for all household members. Examples include:

- **Food Security in Africa Project** - This applied research activity has a strong operational and problem-solving orientation, focusing on four themes as they relate to food security. These are (1) international trade, (2) public and private sector roles, (3) agricultural technology, and (4) the linkages among food production, marketing and consumption. Research has increased understanding of how different categories of households are affected by different programs. The project has identified trends in household strategies for dealing with short-term food emergencies. It has also provided insights about the capability of farmers, traders, and government managers to respond to policy reforms, institutional changes and technological improvements.

- **Famine Early Warning System (FEWS)** - FEWS identifies problems in the food supply system that could lead to famine conditions in seven food insecure African countries (Burkina Faso, Chad, Ethiopia, Mali, Mauritania, Niger and Sudan). FEWS works closely with the governments of the seven countries to strengthen national data collection efforts and to provide timely information to decision makers about potential famine situations, so that they may take timely steps to prevent famine outbreaks.

- **Demographic and Health Surveys (DHS)** - DHS conducts detailed surveys in many developing countries, and has significantly added to knowledge and understanding of health, family planning and nutrition-related data. DHS collects anthropometric data on infants and children, permitting measurement of the nutritional status and growth of children. Thirty-five surveys have been conducted since 1985.

Food Aid

Since initial passage of Public Law 480 in 1954, American food aid programs have provided the developing world with more than $44.0 billion in food assistance--approximately 50 percent of world-wide food contributions made to developing countries each year. Recent legislation stresses food security as a principal objective of the food aid program and heightens the importance of nutritional impact. Increasingly, food aid is being integrated into long-term economic development strategies. Greater integration will particularly helpful to sector programs in agriculture, the environment, health and nutrition, and to policy reform efforts to strengthen the export sector, broaden the impact of income and employment growth, and stabilize food prices.

Most food aid is provided through three programs. The Title I program provides long-term, low-interest loans for the purchase of agricultural commodities by developing countries that are able to pay for food but are experiencing foreign exchange difficulties. Title II provides for the donation of food aid commodities for humanitarian and developmental uses through PVOs, cooperatives and international organizations. Title III provides grant food aid to least developed countries with significant food security needs. USDA administers Title I, while USAID administers Titles II and III.

Food aid not only alleviates food shortages and reduces the incidence of malnutrition, but also contributes to economic development through policy reform and local currency projects. With other forms of economic assistance, food aid is used to support policy measures which will effect structural reform, and improve agricultural productivity and overall economic performance.

In FY 1991, Titles I and III provided $719.0 of agricultural commodities to developing countries. Also in FY 1991, food aid commodities valued at $450 million were programmed to reach over twenty million people through maternal, pre-school and school age feeding programs and through emergency assistance efforts.

Worldwide emergency food aid needs have increased dramatically in recent years. In FY 1991, emergency food aid accounted for over $180.0 million of the cost of commodities provided by the United States, including over $70.0 million in commodities channeled through the World Food Program. In Africa, food aid for emergency relief, including support for refugees, displaced persons and returnees has accounted for about 40 percent of the total food aid provided. Emergency food aid, as well as targeted feeding programs under Title II, are carried out in close collaboration with U.S. private voluntary and other nonprofit organizations, universities and industry, as well as multilateral donor organizations.

Other U.S. Government Programs which Affect Nutrition.

USAID Development Programs

The greater share of foreign aid resources is allocated to programs which address many of the underlying causes of malnutrition. In FY 1990 over $6.0 billion was spent globally on projects, programs and resource transfers in the sectors of agriculture, health and family planning, natural resources management, energy, education, private sector development, infrastructure, institutional development and macroeconomic policy reform.

USAID's agricultural development programs seek to increase incomes, expand the production and availability of food while maintaining and enhancing the natural resource base. Many health programs highlight child survival concerns and stress the reduction of infant and early childhood illness and death. Health interventions increase immunization coverage, and expand the use of oral rehydration therapy; others improve water supplies and seek to lower the cost of basic health services and technologies. USAID's education strategy emphasizes training, and the pursuit of a comprehensive approach to basic education. Private sector programs promote a climate conducive to the effective functioning of financial markets, encourage privatization, and stimulate microenterprise development. In carrying out these diverse programs USAID emphasizes coordination among sectors to maximize achievement of nutrition goals.

USAID's development goals are pursued through policy dialogue, to encourage governments to carry out sound policies, and programs and projects which help implement these policies. USAID's policy dialogue is carried out within the framework of six basic principles: support for free markets and broad-based economic growth; concern for individuals and families and the development of their economic and social well-being; support for democratic pluralism; responsible environmental policies and prudent management of natural resources; support for lasting solutions to transnational problems; and humanitarian assistance to those who suffer from natural or man-made disasters.

Other U.S. Government Agency Activities

Many U.S. Government agencies contribute resources, technical skills, and research activities to address problems of malnutrition and hunger, which either directly or indirectly affect developing countries. Some programs are funded by USAID, others by the agencies themselves, and still others by international organizations.

Department of Agriculture (USDA): Beyond the Title I food aid program for which USDA is responsible, the Department carries out many diverse agricultural research, technical assistance and training activities that contribute directly and indirectly to reaching U.S. nutrition goals at home and abroad.

USDA is active in hundreds of agricultural research projects that are either conducted overseas or involve collaboration between U.S. and foreign scientists. From 1958 through 1991, 2,187 projects were paid for with foreign currencies generated under PL 480 Food for Peace sales. Currently there are 186 active projects of this type overseas; funding in FY 1991 was roughly $1.3 million. For example, nutrition-related projects in India are studying the relation between diet and trace element status in the state of Haryana and the long-term effects of nutrition intervention with low-cost local foods from birth to the age of 12. In Poland, scientists are investigating the relation between calcium requirements and vitamin B-6 status. Projects in Taiwan are studying the effects of cooking/processing on pesticide and drug residues in meats, how ionizing radiation affects meat and prawns, and methods for more rapidly detecting bacteria in foods.

Other USDA international research activities are funded directly by the Department itself through bilateral joint funding mechanisms, or by USAID, international organizations and private institutions. Most USDA-supported international agricultural research is focused on food production, although a good number of activities (currently 40) directly address nutrition, food safety and food quality issues. For example, three long-term joint research projects with Ireland were funded in 1991 to develop new high value dairy products in response to concerns over excessive fat content in diets.

In addition, USDA provides technical assistance to other countries at an annual level of roughly $33.0 million, with these efforts funded primarily by USAID and international organizations. They focus on increasing food production, preserving natural resources and improving agricultural program management in developing countries. USDA also manages academic and short-term training programs for foreign participants. Over 70,000 foreign students have received training. Again, most training concerns agricultural production, but training in nutrition, food safety and quality is also provided.

Food and Drug Administration (FDA): The FDA carries out a number of international programs related to nutrition, food quality and food safety. Examples include:

- a joint research project in Egypt, studying iron fortification of bread;

- technical assistance in Thailand to improve food safety;

- assessment of laboratory capabilities and review process controls in food manufacturing facilities in Peru.

In addition, FDA provides assistance in food-related emergencies, e.g., the cholera epidemic in South America in 1991, and is active in international cooperative efforts concerning nutrition, food safety and food quality.

National Institute of Health (NIH): NIH participates in a large number of cooperative relationships with developing countries and international organizations. Many of these collaborations involve nutrition-related research and study. For example, in collaboration with scientists in other countries, NIH has conducted studies of the relationship of nutrients nutrition to cancer and coronary heart disease rates and the relationship of changing dietary patterns to disease. Other examples include research into (a) nutrition's role in oral health (Peru); (b) malnutrition's effects on reproduction, lactation, work performance, and social competence of women; (c) adverse reactions to food and additives (India); and (d) interventions in regions of vitamin A deficiency and eye disease (Nepal, India, Thailand). NIH represents the United States on the U.S.-Japan Malnutrition Panel, which pursues a collaborative research agenda.

NIH also supports fellowships for U.S. and foreign scientists to carry out studies and research both in the United States and abroad. It routinely sponsors scientific meetings and workshops, often on nutrition-related topics. The findings of NIH-supported research are made available through a variety of means to other countries and international organizations.

Centers for Disease Control (CDC): CDC works directly with developing countries in several major program areas, providing training in nutrition status monitoring and assessment, epidemiology, crisis management and program development and evaluation. It is active in developing methods and guidelines for nutrition monitoring, and is a collaborator in the Program Against Micronutrient Malnutrition. Examples of CDC activities contributing to improved nutrition in developing countries include:

- Workshops on nutrition surveillance and epidemiology in Guatemala, Haiti, Ecuador and the Peoples' Republic of China.

- Planning and management of national nutrition surveys in ten countries in the past decade, including Nepal, Sri Lanka, Togo and Bolivia.

- Rapid assessments of health and nutrition status during refugee crises, droughts and famines, with assistance provided to Thailand, Pakistan, Sudan, Chad, Ethiopia, Somalia and other countries.

- Technical support for international programs related to growth monitoring (UNICEF), iodine deficiency (International Council for Control of Iodine Deficiency Disorders - ICCIDD), iron deficiency and anemia (INACG), vitamin A deficiency (IVACG), disaster management (UNHCR, WHO) and nutrition issues related to chronic disease (Peoples' Republic of China).

CDC, particularly the National Center for Health Statistics, provides considerable technical assistance and collaborates with numerous developed countries to promote the use of standardized methodologies that will facilitate international comparisons. NCHS continues to collaborate with many developing and developed countries, including Pakistan, Hungary, Australia, United Kingdom, France, the Federal Republic of Germany, and the former Soviet Union.

CDC is also involved in the development of standardized measurements of health and nutrition through activities associated with national surveys, as well as through its work with WHO in developing standards for classifying and analyzing causes of morbidity and mortality from surveys and vital registration systems.

Peace Corps: Peace Corps programs enhance the abilities of people in developing countries to improve their quality of life through person-to-person assistance activities. In FY 1990 nearly 6,000 volunteers worked in 71 countries. Over 1,200 volunteers were involved in agricultural development; their efforts emphasized food security and small farm viability. Also in 1990 almost 1,000 volunteers in 45 countries worked on maternal and child health, nutrition, community health education and water and sanitation projects.

PVO and Private Sector Programs

US private voluntary organizations (PVOs) make a substantial contribution to reducing malnutrition in developing countries. Their programs, many of which are supported with U.S. Government funding, include those in credit and entrepreneurial advisory services, health services, appropriate technology, forestry and agricultural development. PVOs have excelled in extending programs to remote communities. PVOs bring unique skills to the job of economic development, and provide direct channels for private, people-to-people efforts.

PVOs generate extraordinary levels of private resources to help those in the developing world. In 1989 over $1.5 billion in financial and in-kind contributions and revenues were generated by organizations active in international relief and development programs in health and related services. These programs helped to increase food availability and reduce the incidence of illness and death.

PVOs are often at the cutting edge in developing cost effective programs to improve nutrition at the local level. For example, PVOs have designed programs combining credit for entrepreneurial activities with nonformal education about nutrition and consumption directed to women. These efforts seek to improve household food security and nutritional status by empowering women with increased incomes and information.

USAID supports the programs of PVOs through a variety of grants which involve significant shared funding by the grantees. For example, PVOs carry out child survival activities, such as oral rehydration therapy and immunization programs under USAIDs Child Survival Program, and contribute at least 25 percent of the cost of the programs.

In addition, PVOs and Cooperative Development Organizations (CDOs) (which carry out international programs of U.S. cooperatives and credit unions) play a central role in USAID's efforts to distribute Title II food aid. In 1991 eighteen PVOs and cooperatives operating in 62 countries received over one million tons of P.L. 480 commodities, valued at $270.0 million, for distribution.

As mentioned, U.S. food companies provide technical consultants in food technology for USAID's SUSTAIN project. Other companies have collaborated by providing materials and conducting research in micro-nutrient deficiency, in weaning foods, technologies and techniques which potentially enhance assessment of nutritional status, offer alternative delivery systems, or gauge the impact of nutrition interventions.

Revised March 1992